The RCEME History Series

The Corps of
Royal Canadian
Electrical and Mechanical Engineers

RCEME Trades 1944-2020

A Reference Guide

Version 3

by

Doug Knight

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RCEME Trades 1944-2020

A Reference Guide

Version 3

This version updates and replaces version 2,
which was titled RCEME Trades 1944-2017

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Chapter 1 - Introduction

This document traces the history of the Canadian Army and Canadian Armed Forces trades associated with the Corps of Royal Canadian Electrical and Mechanical Engineers (under all its names). It is intended as reference document and not as a narrative history.

There is a significant level of mis-information (folklore?) about the formation of RCEME. This is evident in articles that appear in the EME journal and other publications. When I began the project, the quoted number of RCEME trades in 1944, varied from four to twenty-something to any other number. To be fair, when I traced the source of the numbers, each had a basis in fact, *and usually had a caveat that was lost in the subsequent use.* For example, Padre Don Chisholm's figure of 23 trades was the number of RCEME trades *when he enrolled.* The italics had been lost.

This document is an attempt to produce a sourced reference guide to the trades that have been part of RCEME since its formation in 1944. It is based on contemporary documents, and whenever possible, the source of each statement is noted. That does not say that the source is correct, only that it is the source. On the other hand, if there are errors in published Canadian Army Routine Orders or in a published Canadian Forces Publication, they are usually corrected sooner or later.

On occasion, secondary sources have been used, such as the EME Journal or its equivalent. This is because of the difficulty for a non-serving person to obtain source information in the modern day. Data is digital and lives on servers inside the DND firewall. Hopefully, someone is protecting it, or the Corps will wake up some morning and find that there is a horrendous gap in its history and heritage. On reviewing articles in the Journal for inclusion in this document, the author found that the historical folklore continues. Much of it was edited out of the articles, but inevitably some will remain. If there is a conflict between a statement sourced from the EME Journal, etc., and the primary references quoted elsewhere in this document, disregard the Journal.

Document Versions

Version 1 was a draft version issued in early 2017.

Version 2 was to be a final draft, except for the histories of the post-Unification trades as noted in Chapter 4.

Version 2a corrected minor typos and inserted a missing diagram.

Version 3 (this version) updates the earlier versions, expands the time line to 2020 and adds a brief history of the four present-day RCEME trades (see Chapter 4). The source trades specifications have also been formalized into a supporting series of documents (see Annex C).

Layout of the Document

The main chapters describe the overall trades progression in a chronological order. Each chapter covers a separate period of history. The emphasis is on the big picture.

Annex A lists all the trades that have served in the Corps of RCEME (under all its names) in alphabetical order. Each trade is recorded from inception to closure in chronological order. The trades test for each of the original Second World War trades is included.

The trades specifications of the wartime trades that continued after the war, and the new postwar trades, are too large to be included in this document. The specifications that have been found have been formalized into a supporting series of documents and placed on the RCEME Historical Database and on the Internet Archive (see below), and are available for download. In many cases, the specification has not been Optical Character Read (OCRd). This may be carried out in the future, but in the meantime, the information is available.

The master file is in Apple Pages format. It has been exported to Adobe .pdf format for distribution. Only the .pdf files have been released for public access. File size has been reduced by removing unneeded crops from the images.

Doug Knight
May 2021

Source Documents

This is a reference work and, whenever possible, each statement is linked to a reference. In the text, the reference is noted in square brackets, eg [Trades 1944]. Where possible, the source document (or a relevant excerpt) has been scanned and placed on the RCEME Historical Database and on the Internet Archive. A location of the primary document is given below - there may be other copies in existence.

Primary sources include:

Instructions Regarding Trades Tests and Tradesmen's Rates of Pay, Canadian Army (Overseas), 1943. A copy is available in the Canadian War Museum under the call reference UB 337 I57 CWM Ref Tech 1943. Short reference in this document: [Trades 1943]. This document does not relate trades to a specific Corps. The relationship to RCOC(E) and later RCEME is inferred.

Instructions Regarding Trades Tests and Trades Testing, Canadian Army, 1944. Queens Printer, 1944. A copy is available in the Canadian War Museum under the call reference UB 337 C2 I5 CWM Ref Tech 1944. Short reference in this document: [Trades 1944]. This reference had two major amendments: AL 1 dated 1 January 1945, and AL 2 (not dated), both included in the reference. This reference relates to the Canadian Army as a whole, and not just the Canadian Army Overseas. The assignment of trades to Corps includes RCEME, which is evidence that it was updated after the formation of CEME/RCEME.

Canadian Army Routine Order (CARO) No. 4230 dated 15 March 1944. The Annexes to this CARO (and subsequent CAROs that amended CARO 4230) detailed the units and trades that were to be transferred to the new Corps of RCEME. The Canadian War Museum has a set of CARO.

Canadian Army Routine Order No. 6579 dated 20 May 1946. This was the first major postwar regrouping of Army trades and classification of tradesmen. A copy is available in the Canadian War Museum under the call reference Ref Tech Folio UB 505 C2 A7. Short reference in this document: [CARO 6579 (1946)].

Canadian Army Order No. 269-1 dated 8 April 1947. This order amplified and clarified[CARO 6579 (1946)] and is part of the new Canadian Army Orders series that replaced the Canadian Army Routine Orders in 1947. A copy is available in the Canadian War Museum under the call reference Ref Tech UB 507 A6 S8. It also announced that a new publication "Canadian Army Trades Tests 1946" would be issued, (which has not been found). Short reference in this document: [CAO 269-1 (1947)].

Canadian Army Order No. 269-1 dated 22 August 1949. Trades Designations, Groupings of Trades, Responsibility for Training and Corps Affiliation. This replaced and updated [CAO 269-1 (1947)]. It also assigned trades to specific Corps. A copy is available in the Canadian War Museum under the call reference Ref Tech UB 507 A6 S8. Short reference in this document: [CAO 269-1 (1949)]. This reference was amended in CAO 269-1 dated 6 February 1950, which is included as part of this source.

Canadian Army Order No. 269-1 dated 27 November 1950. Trades Designations, Groupings of Trades, Responsibility for Training and Corps Affiliation. This replaced and updated [CAO 269-1 (1949)]. A copy is available in the Canadian War Museum under the call reference Ref Tech UB 507 A6 S8. Short reference in this document: [CAO 269-1 (1950)].

Canadian Army Order No. 269-1 dated 5 May 1952. Trades Designations, Groupings of Trades, Responsibility for Training and Corps Affiliation. This replaced and updated [CAO 269-1 (1950)]. A copy is available in the Canadian War Museum under the call reference Ref Tech UB 507 A6 S8. Short reference in this document: [CAO 269-1 (1952)].

There would appear to have been an update to CAO 269-1 in 1954, but the CWM does not have a copy of that CAO - DHH might.

Canadian Army Manual of Trades and Specialties. This detailed the Canadian Army trade standards and specifications and replaced the Canadian Army Trades Tests series. The manual seems to have come into effect by CAO 225-52 dated 18 November 1957. There is apparently no CAO 269-1 after that date. The RCEME trades extracted from this document are dated in the late 1950s and early 1960s. A copy is available in the Canadian War Museum under the call reference Ref Tech UB 337 C2 C3 n.d. This reference is not complete. A complete version may exist at DHH (apparently not). Short reference in this document: [CAMTS].

Files in the Library and Archives, Canada (LAC). There are files in the LAC on many of the RCEME trades in the 1950s and early 1960s. These files have been reviewed and the specific file reference is contained in Annex A for the specific trade in question. See also the Army Trades Committee paragraph below. Short reference in this document: [LAC - file reference].

A specific file at the LAC is RG24-C-1-a, Volume 2165, File HQS-54-27-35-320, Trades Training & Tests - RCEME - Policy 1944-1947. It is not complete, but provides documentary evidence of the DEME position on the creation and elimination of some trades. Where other official confirmation has not been found (e.g. in the Army Trades Committee files), this file has been accepted as an authority. Short reference in this document: [LAC - Policy - Training of Tradesmen, RCEME]

Army Trades Committee and Army Trades Committee Sub-committee files at the LAC. A specific series of files at the LAC are the minutes of the Army Trades Committee and Army Trades Committee Sub-committee from about 1950 to 1965. They are best located by using the LAC search engine. The minutes give the approval (and date) for trade actions, and are often accompanied by supporting documentation such as trades specifications. Short reference in this document: [LAC - ATC and LAC - ATCSC]. The Directorate of History and Heritage also has a copy of some of these files. Between DHH and the LAC, there should be a complete set.

Files in the RCEME Archives. The RCEME archives, currently located at the RCEME School, have a few trades files. Most date from the early 1960s. There is a separate list ing of all the files in the RCEME archives. Short reference in this document: [RCEME Archives].

Bennett, Thomas J. **Skill at Arms, A History of Canadian Army Trades including their Badges and Parachute Wings**. Bunker to Bunker Books, Calgary, AB, 2005. The book appears to be out of print. A copy is in the Canadian War Museum Library under the call number UC 535 C3 B458 2005. Short reference in this document: [Skill at Arms]. It is an outstanding reference work, and was used heavily in the creation of the first draft of this document. However, unfortunately it does not link to primary sources, and has been replaced as a source document as primary sources become available. That said, few discrepancies have been found, and I have full confidence in this book as a source. It was my primary reference for relating the badges worn by the trades.

RCEME Historical Database. Documents of general and specific interest to RCEME have been placed on a Google drive, part of which is shared with the public. All files in the public section of the database can be downloaded. The database can be accessed through the history and heritage tab on the Corps of RCEME website. Supporting documentation is in the RCEME Complete Digital Archives on the same Google Drive. The supporting documentation (such as the raw document scans) is not available to the general public, but can be requested from the RCEME Historian if required. Short reference in this document: [RCEME Historical Database].

RCEME on the Internet Archive. In 2021, to allow more efficient searching for RCEME documents on the Internet, many historical documents were placed on the Internet Archive. Having reached a threshold number, the Archive created a collection for the RCEME documents. This is an on-going project and includes many more documents besides the trades references and specifications. To search the Archive, go to **https://archive.org** and search for RCEME.

RCEME Trades Source Documents at the LAC (Postwar and Pre-Unification)

The following Policy of Training and Qualifications files have been located at the LAC. All files have been reviewed and relevant details, including trades specifications, have been photographed and a pdf file of the information has been created and placed on the RCEME Historical Database and on the Internet Archive. In general, the information contained in the files is limited to a copy of the draft trades standard. It is a disappointing source, but provides an index to the trades that were in existence.

Policy of Training and Qualifications - Artificers 1951-1961. [LAC Reference: RG24-C-1-c, Volume/box number 31348, File number 3202-A15.]

Policy of Training and Qualifications - Body Repairman 1952-1959. [LAC Reference: RG24-C-1-c, Volume/box number 31348, File number 3202-B22.]

Policy of Training and Qualifications - Driver Mechanics (Wheeled) 1956-1958. [LAC Reference: RG24-C-1-c, Volume/box number 31349, File number 3202-D22/2.]

Policy of Training and Qualifications - Driver Mechanics (Tracked) 1950-1956. [LAC Reference: RG24-C-1-c, Volume/box number 31349, File number 3202-D22/1.]

Policy of Training and Qualifications - Electrical Mechanic 1955-1960. [LAC Reference: RG24-C-1-c, Volume/box number 31362, File number 3202-E14.]

Policy of Training and Qualifications - Fire Control System Technician (AA) 1955-1959. [LAC Reference: RG24-C-1-c, Volume/box number 31362, File number 3202-F9.]

Policy of Training and Qualifications - Fitters 1949-1950. [LAC Reference: RG24-C-1-c, Volume/box number 31362, File number 3202-F18.]

Policy of Training and Qualifications - Instructors (RCEME) 1950-1955. [LAC Reference: RG24-C-1-c, Volume/box number 31363, File number 3202-J2/7.]

Policy of Training and Qualifications - Instrument Technician 1950-1959. [LAC Reference: RG24-C-1-c, Volume/box number 31362, File number 3202-J11.]

Policy of Training and Qualifications - Machinist Fitter 1951-1962. [LAC Reference: RG24-C-1-c, Volume/box number 31363, File number 3202-M2/1.]

Policy of Training and Qualifications - Machinist (Metal) 1946-1965. [LAC Reference: RG24-E-1-c, Volume/box number 32842, File number 450-M1. RCAF file.]

Policy of Training and Qualifications - Master Vehicle Technicians 1954-1958. [LAC Reference: RG24-C-1-c, Volume/box number 31369, File number 3202-V8/M.]

Policy of Training and Qualifications - Master Weapons Technician 1955-1958. [LAC Reference: RG24-C-1-c, Volume/box number 31369, File number 3202-W8/M.]

Policy of Training and Qualifications - Projectionist Clerk. [LAC Reference: RG24-C-1-c, Volume/box number 31368, File number 3202-P49.]

Policy of Training and Qualifications - Radar Technician 1951-1954. [LAC Reference: RG24-C-1-c, Volume/box number 31368, File number 3202-R3.]

Policy of Training and Qualifications - Radio Technician 1955-1960. [LAC Reference: RG24-C-1-c, Volume/box number 31368, File number 3202-R12.]

Policy of Training and Qualifications - Recovery Mechanic 1953-1954. [LAC Reference: RG24-C-1-c, Volume/box number 31368, File number 3202-R11.]

Policy of Training and Qualifications - Tire Repairman 1952-1954. [LAC Reference: RG24-C-1-c, Volume/box number 31369, File number 3202-T18.]

Policy of Training and Qualifications - Typewriter Mechanics 1952-1956. [LAC Reference: RG24-C-1-c, Volume/box number 31369, File number 3202-T30.]

Policy of Training and Qualifications - Vehicle Mechanics 1950-1961. [LAC Reference: RG24-C-1-c, Volume/box number 31369, File number 3202-V6.]

Policy of Training and Qualifications - Vehicle Mechanics 1961-1963. [LAC Reference: RG24-C-1-c, Volume/box number 31369, File number 3202-V6.]

Policy of Training and Qualifications - Watchmaker 1952-1956. [LAC Reference: RG24-C-1-c, Volume/box number 31369, File number 3202-W4.]

Policy of Training and Qualifications - Weapons Technician 1954-1958. [LAC Reference: RG24-C-1-c, Volume/box number 31369, File number 3202-W8.]

Policy of Training and Qualifications - Welders 1952-1956. [LAC Reference: RG24-C-1-c, Volume/box number 31369, File number 3202-W6.]

The EME Trade Structure, Trades Training, Trades Badges, Accreditation and Certification in the 1990s [From Canada's Craftsmen at 50!]

[This section of *Canada's Craftsmen at 50!* was written by CWO A.E. Rest, EME Branch CWO from 1991-1995.
The original footnotes have been inserted directly into this document.]

The roots of the four EME trades in 1994 lie primarily in the Canadian Army. The roots of the vehicle technicians also lie in the Royal Canadian Air Force, while the roots of some Aerospace Engineering and Communication & Electronic trades lie in RCEME.

Trade Structure

Up until the end of World War Two, the Canadian Army trade structure followed that of the British Army. There were several trade fields, including armourer, armament, vehicle, instrument, electrical and, as the war progressed, radio (wireless) and radar. A tradesman‟s skill level was identified by the letters A, B and C, with Group A being the highest obtainable. Group A tradesmen were known as artificers. In most trades Group B and C tradesmen were known as fitters. Exceptions included armourers and blacksmiths. At one time radio technicians were also known as wireless fitters.

The number of trades was constantly expanded to cope with the repair problems presented by an endless stream of new equipment. The Corps that a tradesman belonged to, i.e. what cap badge he wore, was often determined by who owned and needed to repair the equipment. For example, fitters, armourers and blacksmiths could be found in the Combat Arms, RCE, and supporting Corps such as RCOC, RCASC, and RCEME.

Wartime trades were narrow in scope, and tradesmen were given just sufficient training to repair the equipment for which they were responsible. The finer points of trouble-shooting and expedient repair were often picked up in an operational theatre. Some Fitter trades (and others) were replaced by more specialized vehicle mechanic trades (tracked or wheeled) in 1945. Instrument mechanics were split into many specialized sub-groups, to simplify training. The introduction of radar and other electronic equipment led to the establishment of many new trades.

The end of World War Two brought demobilization and reductions in personnel and equipment. As a result, the number of technical trades was reduced and the responsibilities for each trade broadened. In October 1946, trade standards were replaced by trade specifications demanding a higher degree of skill. Trade Groups A, B, and C were replaced by Groups 1, 2, 3, and 4, with Group 4 being the highest. For most trades, Group 1 training took place at the RCEME School. Group 2 training was conducted at a unit, usually a workshop. Qualification consisted of an examination by a trades test that included practical repair functions. The Group 3 qualification was attained through formal training at the RCEME School, or by trades testing, in accordance with individual trade specifications. Group 4 required pre-assessment followed by formal training, and those passing the course were called artificers or "tiffies" - later master technicians.

Trades were consolidated to provide a career path from Group 1 to Group 4. Those trades where progression was difficult were allied to primary trades. For example, body repairmen, welders, tire mechanics, and recovery mechanics were allied trades of the vehicle career field. Progression to Group 4 was by conversion course. Trades which did not lend themselves to this approach, such as coach painter, sheetmetal worker, textile refitter, and tinsmith, were gradually phased out.

Trades and trade specifications continued to change during the 1950s and 1960s. Trades such as pattern makers, recovery mechanics and tire mechanics were deleted and their essential functions passed to remaining trades. Aircraft trades were added so that RCEME could provide repair services for army helicopters and fixed-wing aircraft. Gun mechanics and armourers were given conversion training and remustered to weapons technicians. The vehicle technician Group 1 tracked and wheeled course was replaced by separate courses for each discipline. Conversion training was given at the Group 4 level.

Integration of the Canadian Armed Forces resulted in massive changes to trade structures and generated a new performance-oriented trades training approach. Trade specifications were replaced by occupation specifications in which rank and trade were tied together. In addition, trade groups were replaced by pay levels and Corps were replaced by personnel Branches, e.g. RCEME was replaced by LORE. The number of trades in the integrated forces was reduced through consolidation and elimination. Some technical trades and the non-technical trades migrated to other branches. Radar, radio repair, welder, body repair, and airplane and helicopter repair are examples of technical trades that were reassigned to other branches. Non-technical trades such as Drivers, Clerks and Storemen were also reorganized. Others such as the assistant instructor trade were deleted and personnel in them were remustered to new trades. Consolidation affected former RCEME trades assigned to the new LORE branch. Wheeled and tracked vehicle mechanics became vehicle technicians. Instrument and electrical technicians became electro-mechanical technicians. Specialist courses were developed to train technicians to repair equipment that was not in wide use throughout the Canadian forces. Examples were the Leopard tank, M109 self-propelled gun, engineer equipment and security container courses.

At the same time, trade levels were changed from the Group to the Trade Level (TL) system. A Group 1 tradesperson became a TL3 tradesperson. The TL1 and TL2 designators applied to the Recruit and Trained Recruit levels. By the 1980s this system was replaced by the Qualification Level (QL) system. QL1 and QL2 are the two Recruit levels, while QL3 to QL7 are the trade levels.

Adjustments and revisions to occupation specifications have continued to evolve to meet forces requirements. Many courses were expanded to rectify training deficiencies identified by combat units. In the mid-1980s, the materials technician trade was created to fill a prominent gap in branch repair expertise. Its establishment allowed many former RCEME tradesmen, notably welders, to return to the EME fold.

In 1995 a complete occupational analysis for all EME trades was started, to ensure that the trade structure of the EME Branch was up to date for the future.

Trades Training

The method of delivering training in the 1990s was a mix of formal trades courses and on-job training. There were similarities with the pre-Integration training system. The basic trades course was the QL3 and compared to Group 1. QL4 was on-the-job training and compared to Group 2. The journeyman course was the QL5 and compared to Group 3. The QL6 courses compared to Group 4, but were given at the master-corporal/sergeant level. This was the highest trade skill course. The QL7 course was given at the warrant officer level and prepared candidates for the supervision and knowledge skills needed at master warrant officer and chief warrant officer ranks.

Trades Badges

Distinctive trades badges have long been used to identify army tradesmen. Until the end of the Second World War, there were two badges. Tradesmen in the armourer and armament field had the crossed blacksmith's hammer and callipers which was the traditional British Army badge for these trades and had been in use in the Canadian Army for many years. The remaining technical trades were identified by a badge featuring the letter "T". The Group C badge was a "T". The Group B badge was a "T" surmounted with a crown. Group A artificers wore the "T" symbol with a crown and wreath. Trades badges were worn by all tradesmen and artificers on the upper sleeve.

When trades standards were replaced by trade specifications in 1946, Groups A, B, and C were replaced by Groups 1, 2, 3, and 4. Unique symbols were used to identify trades employed in their assigned repair fields. Allied trades adopted the symbols used by the primary trades in their respective repair fields. For example, welders, body repairmen, tire and recovery mechanics wore the vehicle mechanic badge, which was a vertical piston with connecting rod and diagonal spanner. For each trade, the Group 1 badge was the trade symbol alone, Group 2 had the symbol over a wreath, Group 3 had the symbol under a crown, and Group 4 had the symbol with a crown and a wreath. Trades badges were worn by staff-sergeants and below on the lower right sleeve.

On Integration in 1968, the use of trade badges was discontinued. Their use was revived when distinctive environmental uniforms came into use in the early 1990s. The badges followed the previous system, with QL3 similar to the Group 1 badge, QL2 like Group 2, QL5 like Group 3, and QL6A like Group 4.

Accreditation and Certification

In the wake of the Second World War, there was a growing shortage of technically trained people in Canada. Soon, there was a concerted effort to open new technical schools. In addition, the Canadian armed forces were recognized as some of the major institutions providing such training. Recognition of Engineering Technicians and Engineering Technologists was started in the mid-1950s. At that time, DEME carried out some studies to formally accredit certain RCEME trades as Engineering Technicians or Engineering Technologists.

By the 1990s, there was a shift in emphasis. Accreditation and certification of EME trades would help EME tradesmen get established in civilian careers. Potential employers do not have the resources to fully assess qualifications and competence, relying instead on established standards of licensing and certification. Hence a programme for getting the EME occupations accredited was begun.

Chapter 2 - The Original RCEME Trades 1944-45

The formation of the Corps of Canadian Electrical and Mechanical Engineers was approved by General Order Number 127 of 1944, and announced in Canadian Army Routine Order (CARO) No. 4229 dated 15 March 1944. This was followed up by [CARO 4230], dated 15 March 1944, which detailed the units and trades that were to be transferred to the new Corps. CARO 4395, dated 24 April 1944, announced the designation of the Corps as "Royal", and the name was changed to the Royal Canadian Electrical and Mechanical Engineers.

[CARO 4230] was the initial authority for the transfer of Canadian Army trades to RCEME, but it was amended regularly by other CARO during 1944 and 1945. Trades were both added to and removed from RCEME. In addition, there was the usual turmoil as the Canadian Army introduced new equipment. Trades were introduced, amalgamated, or cancelled for greater efficiency in repairing equipment. Normally, changes to individual trades were not announced in the CAROs.

The majority of the initial trades transferred to RCEME came from the Engineering Branch of the Royal Canadian Ordnance Corps (RCOC(E)) and the Royal Canadian Army Service Corps (RCASC). In some trades, mainly in the RCOC, all tradesmen were transferred to RCEME. In others, only those tradesmen serving in a unit that was converted to RCEME were transferred to the new Corps.

[CARO 4230] also specified units, by type, which were to be converted to RCEME. For example, all second line infantry brigade workshops were converted from the RCOC to RCEME. In these units, all personnel became RCEME, regardless of trade (including the non-tradesmen and general duties personnel). This resulted in some tradesmen in trades that were open to all Corps (or a large percentage of the Corps in the army) also being transferred to RCEME. For example, all driver-mechanics in RCEME workshops became RCEME. However, Royal Canadian Armoured Corps driver-mechanics in an armoured regiment remained in the armoured corps.

In a very few cases, a trade that was initially transferred to RCEME was returned to the original Corps by an amendment to [CARO 4230]. The rationale in each case is speculative, but was probably because the trade function was to remain in the original Corps. This also explains why a few trades were removed from RCEME during the immediate postwar reorganization.

RCEME Organization during the Second World War

This is not a document on RCEME organization, but the RCEME trades structure cannot be addressed without some knowledge of where the trade was being used. Some trades were ubiquitous, and found in essentially every RCEME unit. Others were restricted to the larger workshops, or even 1 Canadian Base Workshop. The work that a tradesman was allowed to carry out (within the limitation of his trade level) was normally limited by the role of the unit that he served in, and not by his skill level. Extremely skilled craftsmen carried out relatively simple repairs at the unit level, while less skilled men could carry out detailed repairs under supervision in a rear workshop.

"Echelon" was a contemporary term with several meanings depending on the context. In fighting unit operations, it could denote the separation of the fighting troops ("F" Echelon) from their immediate operational support ("A" Echelon) and their administrative support ("B" Echelon). In the RCOC(E) and later RCEME, the term initially applied to both the extent of repair being performed on a piece of equipment and to the function of the unit carrying out the repair. This obviously led to confusion, which led to the function of the unit being changed from "echelon" to "line". In the simplest form, "echelon" then denoted the type of repair that was being carried out, while "line" indicated the function and level of a unit within the RCEME repair structure. Unfortunately, many people still thought the two terms were synonymous, which added to the confusion. In modern terminology, "level" has replaced "echelon".

The Four Echelons of Repair

The four echelons of repair, originally defined by the British committee appointed to consider the lessons of the Battle of France (1940), were restated in 1943 by Colonel Max Meighen, Deputy Director of Mechanical Engineering at 2 Canadian Corps as:

> First Echelon (minor repairs) is the first stage of repair of equipment. In this stage, work is limited to minor repairs, replacements and adjustments, which can be carried out in unit lines with the troops provided in the [AFG 1098] table of equipment of the unit and with the tools of the RCEME personnel attached to the unit.
>
> Second Echelon (replacement of assemblies) is the second stage of repair of equipment. In this stage, the main function is the replacement of defective assemblies by new or reconditioned assemblies. In addition, repairs can be carried out to certain assemblies, and to items not dealt with as assemblies, in so far as they can be completed satisfactorily in the time available, and with the equipment and personnel available in the workshop. Generally, an assembly should only be repaired in second echelon when it can be repaired quicker and more satisfactorily than it can be replaced.
>
> Third Echelon (repair of assemblies) is a stage in which the main function is complementary to that of second echelon. The work is mainly the repair of assemblies that have been replaced by second echelon [line] workshops. The repair of an assembly is normally carried out by replacing the defective components or items of the assembly with new or reconditioned components. The repair of defective components can also be undertaken in third echelon [line] workshops

> when the repairs involved do not require extensive or elaborate equipment. Third echelon work also includes the replacement of certain assemblies that are not conveniently replaceable in second echelon [line] workshops on account of the time, labour, or special apparatus required.
>
> Fourth Echelon (major repairs) is the final stage of repair of equipment and, in this stage, repairs are only limited by the personnel, stores, workshop facilities, and time that can be made available for the work to be carried out, and by consideration of the extent to which repairs are worth while in the prevailing circumstances.

Difference between Line and Echelon

The terms "line" and "echelon" as applied to RCEME operations were not the same, and considerable confusion was caused by the assumption that the terms were synonymous. In the simplest form, "echelon" denoted the type of repair that was being carried out, while "line" located a unit within the RCEME repair structure. Units were broken down into "lines" by type, and by the formation that they worked in.

> First line workshops were attached to fighting units, and assisted the unit mechanics in repairing the unit equipment. They performed first echelon repairs. They included six types of "light aid detachments", and also certain specialized workshops, such as light anti-aircraft, heavy anti-aircraft, and engineer equipment workshops. The specialist first line workshops carried out both first and second echelon repairs on their equipment.
>
> Second line workshops were the immediate support for the first line workshops. They performed second echelon repairs. At the division level, they included infantry brigade workshops (one for each infantry brigade in the division) and armoured brigade workshops (one for each armoured brigade in the division). They were under command of the divisional Commander, RCEME (CREME) and operated in the division area. Although called brigade workshops and organized on the basis of one for each brigade in the division, these workshops were considered a division resource, rather than a brigade resource, and non-brigade units (for example, the artillery regiments) were supported by a workshop as directed by the CREME. Above the division, each Corps had a Corps Troops Workshop, and First Canadian Army had an Army Troops Workshop. These second line workshops provided second echelon repairs to units commanded by the Corps or Army HQ respectively. The Canadian General Troops Workshop provided second line services to the Lines of Communications units.
>
> Third line workshops were normally commanded by Corps HQ, although they could be placed under First Canadian Army HQ. These workshops assisted the second line workshops by taking on second echelon overflow work in preparation for, or as a result of, operations. They also carried out third echelon repairs. These workshops included three Infantry Troops Workshops (on the scale of one per infantry division in the Corps), two Armoured Troops Workshops (on the scale of one per armoured division in the Corps) and two Tank Troops Workshops (on the scale of one per Corps). They also included specialized workshops for unique units, such as the Radar Battery Workshop and the Tire Repair Workshop.

> Fourth line workshops included 1 Canadian Base Workshop that never left the UK, and the two Canadian Advanced Base Workshops. These carried out fourth echelon repairs.

The organization of field units in the Reserve Army in Canada was similar to the Canadian Army Overseas, although there were no units above division level. In addition, there were many static operational units, such as workshops supporting coast defence and anti-aircraft units, as well as units supporting training bases and schools. The overall organization of RCEME in Canada during the Second World War has not been well documented or studied.

Types of Units and Establishments, both Active and Reserve, affected by the formation of C.E.M.E. [CARO 4230]

[CARO 4230] defined the unit types that would be converted to RCEME. This is an extract from [CARO 4230], Appendix B:

The R.C.O.C. units which [will] convert completely to C.E.M.E. and remain provisionally on their current War Establishments are:

Light Aid Detachments (all types).
Light Anti-Aircraft Workshops.
Heavy Anti-Aircraft Workshops.
Infantry Brigade Workshops.
Armoured Brigade Workshops.
Infantry Troops Workshops.
Armoured Troops Workshops.
Corps Troops Workshops.
Army Troops Workshops.
Tank Troops Workshops.
Recovery Companies.
Advanced Base Workshops.
Port Workshop Detachments.
Engineer Equipment Workshops.
Base Ordnance Workshops.
Ordnance Workshops (except non-technical workshops).
Sub-Workshops.
M.T. Inspectorate.
Fortress Workshops.

Other RCOC Units Overseas Transferred to RCEME on 15 May 1944

This is an extract from Overseas Routine Order No. 4604:

In addition to the units transferred to RCEME in [CARO 4230], following units were transferred to RCEME by Appendix B to Overseas Routine Order No. 4604. This order applied only to units overseas. All personnel in the units involved were transferred to RCEME.

Part I

The following RCOC units were converted completely to RCEME and remained provisionally on their current war establishments:

Port Workshops

- Base Workshops
- Small Arms Inspectorate
- HQ, Commander RCEME
- Part II [literal text - ed]

For RCOC units which become provisionally combined RCOC and RCEME, posts for engineering personnel on the War Establishment of these units will apply to the RCEME, together with all posts for personnel employed on administrative and general duties with the engineering parts of such units, except for personnel of other Corps as specifically designated in War Establishments.

All other posts will apply to the RCOC.

Central Ordnance Depot

- Ordnance Reinforcement Unit

  Note: In the case of combined units, certain establishments, such as the Central Ordnance Depot and Ordnance Reinforcement Units, are included in Part II as a temporary measure only, pending the issue of new War Establishments separately for RCOC and RCEME.

Provisional List of Trades Applicable to the C.E.M.E. [CARO 4230]

[CARO 4230] defined the trades that would be transferred to RCEME. This is an extract from [CARO 4230], Appendix D:

The list below is based on Appendix "D" of Canadian Army Routine Order 4230, which specified the trades that were to be transferred to CEME (RCEME after CARO 4395). It includes amendments, as noted, from subsequent Canadian Army Routine Orders. The [CARO 4230] list has been reordered slightly into alphabetical order. Amendments to [CARO 4230] are noted in the list.

Trades changed frequently during the war, in response to the introduction of new equipment. Some trades were being amalgamated or converted when RCEME was formed and are noted as obsolescent in [CARO 4230]. Others were routinely replaced or amalgamated before the end of the war as noted in [Trades 1944 and its amendments]. These changes are noted in the list below for clarity, but were not listed in any routine order.

In addition to the trades listed below, RCEME units included non-tradesmen, such as Drivers IC (Internal Combustion), and personnel for general and regimental duties. These non-tradesmen were transferred to RCEME, if they were in a unit converted to RCEME.

In the list below, an asterisk (*) denotes that the trade would cease to apply to the Corps indicated, and that ALL personnel in the trade would be transferred from that Corps to the C.E.M.E. (later RCEME). The lack of an asterisk indicates that tradesmen in that trade would be transferred only if they were in a unit converted to RCEME.

Details of the individual trades are listed in Annex A (below).

List of Trades Transferred to CEME/RCEME

Trades Which Apply To C.E.M.E.	*Arms From Which Tradesmen Will Transfer*
Armourer	*R.C.O.C.
Artificer, Armament, Instruments (A.A.)	*R.C.O.C.
Artificer, Armament, Instruments (C.D.)	*R.C.O.C.
Artificer, Armament, Instruments (Field)	*R.C.O.C.
Artificer, Armament (A.A.)	*R.C.O.C.
Artificer, Armament (A.F.V.)	*R.C.O.C.
Artificer, Armament (Electrical)	*R.C.O.C.
Artificer, Armament (Field)	*R.C.O.C.
Artificer, Armament (M.V.)	*R.C.O.C.
Artificer, Armament (Radio)	*R.C.O.C.
Artificer, Armament (Wireless)	*R.C.O.C.
Artificer, Armament (Fitter) (Obsolescent)	*R.C.O.C.
Artificer, Armament Instruments (Obsolescent)	*R.C.O.C.

Blacksmith		R.C.O.C.	R.C.A.S.C.
(an asterisk before RCOC was deleted in CARO 4431)			
Body Repairman (Body Builder)		*R.C.O.C.	R.C.A.S.C.
This trade was being amalgamated from the Panel Beater and Body Builder trades at this time. References to Panel Beater, Panel Beater (Body Repairman), Body Repairman (Body Builder), or any combination, all refer to the same trade.			
Carpenter		R.C.O.C.	R.C.A.S.C.
Carpenter and Joiner		R.C.O.C.	R.C.A.S.C.
Clerk	(added CARO 4431)	R.C.O.C.	
~~Clerk (C.E.M.E. later R.C.E.M.E.)~~		~~R.C.O.C.~~	
(deleted CARO 4431)			
Clerk (Stenographer)		R.C.O.C.	
Clerk (Superintending)		R.C.O.C.	
Coppersmith		*R.C.O.C.	R.C.A.S.C.
Draughtsman	(added CARO 4431)	R.C.O.C.	
Draughtsman (Mechanical)		*R.C.O.C.	R.C.A.S.C.
(asterisk added CARO 4431)			
Driver Mechanic		R.C.O.C.	R.C.A.S.C.
Electrician		*R.C.O.C.	R.C.A.S.C.
This trade was later renamed/replaced by the Electrician (Control Equipment) trade in January 1945 [Trades 1944 AL 1]			
Electrician (M.V.)	(added CARO 4431)	*R.C.O.C.	
This trade was later replaced by the Electrician (Vehicle and Plant) trade in January 1945 [Trades 1944 AL 1]			
Electroplater		*R.C.O.C.	
Fitter		*R.C.O.C.	
Fitter (M.V.)		*R.C.O.C.	R.C.A.S.C.
This trade was later replaced by the Vehicle Mechanic (AFV) (MV) trade in January 1945 [Trades 1944 AL 1]			
Fitter (A.F.V.)		*R.C.O.C.	
This trade was later replaced by the Vehicle Mechanic (AFV) (MV) trade in January 1945 [Trades 1944 AL 1]			
Grinder, precision		*R.C.O.C.	*R.C.A.S.C.
Machinist	(added CARO 4431)	*R.C.O.C.	
Machinist (Metal)		*R.C.O.C.	
Machinist (Wood)		*R.C.O.C.	
Mechanic, Instrument		*R.C.O.C.	

Mechanic, Motor This trade was discontinued in January 1945 and replaced by the Vehicle Mechanic (AFV) (MV) trade [Trades 1944 AL 1].		*R.C.O.C.	R.C.A.S.C.
Mechanic, Motorcycle This trade was discontinued in January 1945 [Trades 1944 AL 1].		*R.C.O.C.	
Mechanic, Radio		*R.C.O.C.	
Mechanic, Tire Maintenance		*R.C.O.C.	
Mechanic, Typewriter		*R.C.O.C.	
Mechanic, Vehicle		*R.C.O.C.	
Mechanic, Wireless		*R.C.O.C.	
Mechanist			R.C.A.S.C.
Millwright			R.C.A.S.C.
Moulder		*R.C.O.C.	*R.C.A.S.C.
Operator (tire repair plant)		*R.C.O.C.	
Painter, Coach		*R.C.O.C.	R.C.A.S.C.
Painter and Decorator		R.C.O.C.	
Pattern Maker		*R.C.O.C.	*R.C.A.S.C.
Photographer dry plate	(added CARO 4431)	R.C.O.C.	
Plumber		R.C.O.C.	
Refitter, Textile		R.C.O.C.	
Repairer, Pushcycle		*R.C.O.C.	
Riveter		*R.C.O.C.	
Saddler		R.C.O.C.	
Saw Doctor	(added CARO 4431)	R.C.O.C.	
Sawyer		*R.C.O.C.	
Senior Projectionist	(added CARO 4945)	R.C.O.C.	
Sheet Metal Worker		*R.C.O.C.	R.C.A.S.C.
Storeman (Technical and Departmental)		R.C.O.C.	R.C.A.S.C.
Striker or Hammerman, Blacksmith's (asterisk before RCOC deleted in CARO 4431)		R.C.O.C.	
Supervisor, Workshop		R.C.O.C.	
Tinsmith (asterisk before RCOC deleted in CARO 4431)		R.C.O.C.	R.C.A.S.C.
Toolmaker		*R.C.O.C.	*R.C.A.S.C.
Trimmer and Upholsterer, Coach (asterisk before RCOC deleted in CARO 4431)		R.C.O.C.,	R.C.A.S.C.

Turner	*R.C.O.C.	R.C.A.S.C.
Vulcanizer (Obsolescent) Noted as obsolescent in [CARO 4230], this trade was being replaced by the Mechanic (Tire Maintenance) above, also included in [CARO 4230].	*R.C.O.C.	R.C.A.S.C.
Watchmaker	*R.C.O.C.	
~~Welder (Electric)~~ (deleted CARO 4431)	*R.C.O.C.	
~~Welder (Gas)~~ (deleted CARO 4431)	*R.C.O.C.	*R.C.A.S.C.
Welder (Gas and Electric) (the asterisk before RCOC deleted in CARO 4431)	R.C.O.C.	
Wheeler	*R.C.O.C.	

Notes (from [CARO 4230]):

1. Other Ranks of trades marked with an asterisk, which are now shown in War Establishments of R.C.O.C. units not converted to the C.E.M.E., or in War Establishments of other arms as "R.C.O.C. attached", will become "C.E.M.E. attached".
2. In the case of R.C.O.C. clerks (excluding substantive conductors and sub-conductors) and non-tradesmen now shown as attached or part of a War Establishment or another arm or headquarters, etc., such R.C.O.C. personnel will be transferred to the C.E.M.E. in cases where they are doing duty in connection with electrical and mechanical maintenance.
3. In addition to tradesmen of the trades listed above, the C.E.M.E. will include non-tradesmen such as Drivers, I.C., and personnel for general and regimental duties.
4. Trades to be absorbed from the R.C.E. will be notified separately.
5. Other Trades Associated with RCEME during the Second World War

The trades listed in [CARO 4230] were repeated (with exceptions that did not exist overseas and additions that did not exist in Canada) in Appendix C to Overseas Routine Order No. 4604. The Overseas Routine Orders applied to the First Canadian Army, and other units controlled by Canadian Military Headquarters in London. In a few cases, First Canadian Army had segmented trades into specialties to simplify training. For example, the Instrument Mechanic trade was divided into five sub-trades depending on the type of unit that the tradesman was in e.g. a light anti-aircraft workshop.

The Driver Operator trade was noted as transferred to RCEME in Overseas Routine Order No. 4604, but was not listed in [CARO 4230]. However, by implication, any driver-operators in units converted to RCEME became RCEME.

Additional RCEME Trades listed in [Canadian Army Trades Tests 1944]

The following trades were not listed either in [CARO 4230] or in Overseas RO 4604, but are annotated as applicable to RCEME in the "Instructions Regarding Trades Tests and Trades Testing, Canadian Army, 1944”. The document is dated April 1944, which is after the formation of RCEME, but before the official birthday in May 1944. I have added an explanation/speculation for these entries, and the trades are included in Annex A.

Coach Trimmer & Upholsterer (aka Trimmer & Upholsterer, Coach). There is no real evidence that this trade was converted to RCEME. It does not appear in [CARO 4230] or the amendments. Nevertheless, it is listed as open to RCEME in [Trades 1944].

Draftsman (Lithographer). This trade is listed as open to RCEME in [Trades 1944], but no reference to this trade has been found in a RCEME unit establishment.

Electrician (Vehicle and Plant). This trade replaced the Electrician (MV) in [Trades 1944 AL1]. The trade was open RCEME and RCASC.

Foreman Departmental. This trade is listed as open to RCEME in [Trades 1944], but no reference to this trade has been found in a RCEME unit establishment. It applied to an RCOC stores function and a few individuals may have been transferred when a unit was converted.

Instrument Mechanic (Field). This trade applied only to the Canadian Army Overseas. It was a wartime measure to split a large trade into wartime specialties. After the war, the trade reverted to the Instrument Mechanic trade.

Instrument Mechanic (Light AA). This trade applied only to the Canadian Army Overseas. It was a wartime measure to split a large trade into wartime specialties. After the war, the trade reverted to the Instrument Mechanic trade.

Instrument Mechanic (Heavy AA). This trade applied only to the Canadian Army Overseas. It was a wartime measure to split a large trade into wartime specialties. After the war, the trade reverted to the Instrument Mechanic trade.

Instrument Mechanic (Field Survey). This trade applied only to the Canadian Army Overseas. It was a wartime measure to split a large trade into wartime specialties. After the war, the trade reverted to the Instrument Mechanic trade.

Instrument Mechanic (Typewriter and Cipher). This trade applied only to the Canadian Army Overseas. It was a wartime measure to split a large trade into wartime specialties. After the war, the trade reverted to the Instrument Mechanic trade.

Storeholder (MV). This trade is listed as being open to RCOC, RCEME, and RCASC in [Trades 1944], but no direct reference to the trade has been found in a RCEME unit establishment. It applied to an RCOC stores function and a few individuals may have been transferred when a unit was converted.

Telecommunication Mechanic. This trade was a successor to the Wireless Mechanic trade. The trades were in transition during the formation of RCEME. The exact date of the change is unknown, but the Artificer, Armament (Wireless) trade is noted as based on the Wireless Mechanic trade in [Trades 1944] in April 1944, and is based on the Telecommunications Mechanic trade in [Trades 1944 AL 1] in January 1945. The change probably took place during that period.

Chapter 3 - RCEME Trades from 1946 to Unification (~1966)

The formation of RCEME in 1944 essentially extracted RCOC Engineering Branch trades into the new Corps. In the case where entire units were converted (for example, the infantry brigade workshops) other common trades were also converted. For example, all the driver mechanics in the brigade workshop became RCEME, but driver mechanics in an infantry battalion wearing the regimental cap badge were not converted. On the other hand, the infantry battalion had a handful of RCOC fitters and vehicle mechanics embedded in the unit, and these tradesmen were converted to RCEME. The battalion also had vehicle mechanics wearing the regimental cap badge and they were not converted during the war. This was known as RCEME Phase 1.

After the war, the process of transferring all technical tradesmen into RCEME began, and continued over the next ten years. This was known as RCEME Phase 2, and trades were reassigned to RCEME in their entirety, or in a few cases, transferred from RCEME to other Corps. On completion of Phase 2, a vehicle mechanic (for example) belonged to RCEME, regardless of where he served. In this phase, unit vehicle mechanics wearing the regimental cap badge were given the option of (for example) reverting to an infantry trade, or becoming a RCEME tradesman.

At the same time, many of the more specialized wartime trades were either eliminated or absorbed into revised postwar trades. Most of the eliminations were in the relatively rare trades found in the third and fourth line units, such as electroplaters and coppersmiths. All of the overseas corps and army level units were disbanded after the war, and in workshops in Canada, civilian tradesmen could provide any special expertise.

The trades structure also changed. Wartime trades had up to three levels or groups, denoted Group C (the basic level), Group B, and Group A. In October 1946, this was changed to a numbered system with four groups; Group 1 to Group 4. In general, the level of each group was:

> Group 1 - a craftsman trained to the basic level, able to carry out most of the functions of his trade under supervision.
>
> Group 2 - essentially a journeyman, able to carry out most of the functions of his trade without supervision. In some non-RCEME trades, two dissimilar Group 1 trades could give a Group 2. For example, in the RCA, a Group 1 Gunner who was also a Group 1 Driver became a Group 2 Gunner.
>
> Group 3 - a master craftsman able to carry out all functions of his trade without supervision and to supervise others in his trade.
>
> Group 4 - a master craftsman capable of carrying out all functions of his trade, and associated trades. For example, the Vehicle Mechanic (Wheeled) Group 3 and Vehicle Mechanic (Tracked) Group 3 trades both joined at the Master Vehicle Mechanic Group 4.

RCEME Trades in 1946 as listed in [CARO 6579 (1946)]

The wartime trades assigned to RCEME are listed in Chapter 2. [CARO 6579 (1946)] regrouped and reclassified all the Canadian Army trades effective 1 October 1946. The Group A-B-C classification was changed to a Group 1, Group 2, Group 3, Group 4 classification. The CARO listed the trades in [Trades 1944] and listed their relevant groups.

The list below notes the changes to the wartime trades on 1 October 1946. Unless otherwise noted, the trade name remained the same. Wartime trades that do not appear in the CARO, and which had presumably been cancelled, are highlighted using strikethrough.

Note that the CARO lists the Artificers as Armament Artificer, not Artificer, Armament. The terminology reversal must have taken place previously.

Armament Artificer Instruments (Anti-aircraft) - changed to a Group 4 trade.

Armament Artificer Instruments (Coast Defence) - changed to a Group 4 trade.

Armament Artificer Instruments (Field) - changed to a Group 4 trade.

Armament Artificer (Anti-aircraft) - changed to a Group 4 trade.

Armament Artificer (A.F.V.) - combined with the Armament Artificer (M.V.), and renamed Armament Artificer (Vehicle) Group 4.

Armament Artificer (Electrical) - changed to a Group 4 trade.

Armament Artificer (Field) - changed to a Group 4 trade.

Armament Artificer (M.V.) - combined with the Armament Artificer (A.F.V.), and renamed Armament Artificer (Vehicle) Group 4.

Armament Artificer (Radar) - became the Group 4 level of the Telecommunication Mechanic trade.

Armament Artificer (Wireless) - became the Group 4 level of the Telecommunication Mechanic trade.

Armament Artificer (Vehicle) - new Group 4 trade.

Armourer - changed to a Group 2, Group 3 trade.

Bandsman - changed to a Group 1, Group 2 trade.

Blacksmith - changed to a Group 1, Group 2 trade.

Body Repairman (Body Builder) - changed to a Panel Beater Group 1, Group 2, Group 3 trade.

Carpenter - changed to a Group 1, Group 2 trade.

~~Carpenter and Joiner~~ - not listed in the CARO. Presumed obsolete.

Clerk - incorporated into a Clerk, Administrative or Clerk, Accounting Group 1, Group 2, Group 3 trade.

~~Clerk (Stenographer)~~ - not listed. By implication in [Trades 1944], this was incorporated into the Clerk trade during the war.

Clerk (Superintending) - changed to a Clerk Administrative or Clerk, Accounting Group 3 trade.

~~Coppersmith~~ - not listed in the CARO. Presumed obsolete.

~~Draughtsman~~ (with no qualifier) - not listed. Presumed incorporated into one of the five Draughtsman trades during the war.

Draughtsman (Mechanical) - changed to a Group 1, Group 2, Group 3 trade.

Driver Mechanic - changed to a Group 1 trade.

Driver Operator - changed to a Group 1 trade.

Electrician (Control Equipment) - changed to a Group 1, Group 2, Group 3 trade.

Electrician (Vehicle and Plant) - changed to a Group 1, Group 2, Group 3 trade.

~~Electroplater~~ - trade deleted by [CARO 6579 (1946)].

Fitter - changed to a Group 1, Group 2, Group 3 trade.

Grinder, Precision - changed to a Group 1, Group 2 trade.

Instrument Mechanic - changed to a Group 1, Group 2, Group 3, Group 4 trade. The CARO refers to the trade as an Instrument Mechanic and not as a Mechanic, Instrument. The reversal must have taken place earlier. The CARO also notes the incorporation of the Watchmaker trade and the overseas trades of Instrument Mechanic (Field), (HAA), (LAA), (Field Survey), and (Typewriter and Cipher) into the Instrument Mechanic trade.

~~Machinist~~ (with no qualifier) - not listed in the CARO. Presumed incorporated into the Machinist (Metal) trade.

Machinist (Metal) - changed to a Group 1, Group 2, Group 3 trade.

Machinist (Wood) - changed to a Group 2 trade.

Mechanic, Radar - incorporated into the Telecommunication Mechanic trade.

Mechanic, Tire Maintenance - changed to a Group 1, Group 2, Group 3 trade.

Mechanic, Typewriter - changed to a Typewriter Mechanic Group 1, Group 2 trade.

Mechanic, Vehicle - changed to a Vehicle Mechanic Group 2, Group 3 trade. At this time, the Driver Mechanic trade served as the Vehicle Mechanic Group 1.

Mechanist - incorporated into the Vehicle Mechanic trade.

Millwright - changed to a Group 1, Group 2, Group 3 trade.

Moulder - changed to a Group 1, Group 2 trade.

~~Operator (Tire Repair Plant)~~ - not listed in the CARO. Presumed obsolete.

Painter, Coach - incorporated into a Painter Group 1, Group 2 trade.

Painter and Decorator - incorporated into a Painter Group 1, Group 2 trade.

Pattern Maker - changed to a Group 1, Group 2, Group 3 trade.

~~Photographer dry plate~~ - not listed in the CARO. Presumed incorporated into the Photographer Group 1, Group 2, Group 3, Group 4 trade.

Plumber - changed to a Plumber and Pipefitter Group 1, Group 2, Group 3 trade.

Refitter, Textile - incorporated into a Textile Refitter Group 1 trade.

~~Repairer, Pushcycle~~ - trade deleted by [CARO 6579 (1946)].

Riveter - changed to a Group 1, Group 2 trade.

Saddler - changed to a Group 1, Group 2 trade.

Saw Doctor - incorporated into the Sawyer trade.

Sawyer - changed to a Group 1, Group 2, Group 3 trade.

Senior Projectionist - changed to a Group 1, Group 2 trade.

Sheet Metal Worker - changed to a Group 1, Group 2 trade.

Storeman (Technical and Departmental)- incorporated into a Storeman Group 1, Group 2, Group 3 trade.

~~Striker or Hammerman, Blacksmith's~~ - not listed in the CARO. Probably incorporated into the Blacksmith trade during the war.

~~Supervisor, Workshop~~ - trade deleted by[CARO 6579 (1946)].

Telecommunication Mechanic - changed to a Group 1, Group 2, Group 3, Group 4 trade. It incorporated the Electrician (Radar), Electrician (Signals), Armament Artificer (Radar), Armament Artificer (Wireless), Instrument Mechanic (Signals), and Telecommunication Mechanic trades.

~~Tinsmith~~ - not listed in the CARO. Presumed obsolete.

Toolmaker - changed to a Group 1, Group 2, Group 3 trade.

Trimmer and Upholsterer, Coach - changed to a Coach Trimmer and Upholsterer Group 1, Group 2 trade.

Turner - changed to a Group 1, Group 2 trade.

Watchmaker - incorporated into the Instrument Mechanic trade.

Welder (Gas and Electric) - changed to a Welder (Acetylene or Electric) Group 1, Group 2 trade.

Wheeler - changed to a Group 1, Group 2 trade.

RCEME Trades in 1947 as listed in [CAO 269-1 (1947)]

Canadian Army Orders replaced the Canadian Army Routine Orders starting in 1947. [CARO 6579 (1946)] was updated by Canadian Army Order (CAO) 269-1 dated 8 April 1947.

The preamble to CAO 269-1 of 8 April 1947 stated:

> (269—1)
>
> TRADESMEN—REGROUPING OF ARMY TRADES AND CLASSIFICATION
>
> Effective 1st October, 1946, the following instructions will apply for trades included in, and to tradesmen of, the various components of the Post-War Canadian Army, ie, Active Force, Reserve Force, and Supplementary Reserve:
>
> a. The system of grouping trades as A, B and C will be discontinued,
>
> b. Trades will be reclassified as Groups 1, 2, 3 and 4 in accordance with the appendix to this order.
>
> Personnel will be required to qualify according to revised trade tests to be issued.
>
> Until trade tested in the new classification, personnel qualified as Group C, B, or A of a trade will be classified Group 1, 2, or 3 respectively. After qualification according to revised trade tests, personnel will be graded as in sub-para (b) above,
>
> Where trades have been upgraded from former “Non-Tradesmen” or “Specialist” categories, personnel concerned will require qualification according to appropriate trade tests before they can be graded as tradesmen.
>
> A new publication, “Canadian Army Trade Tests, 1946”, will be issued and will detail revised and new trade standards. Advance information concerning trade tests will be issued by Circular Letter.
>
> (HQ 54-27-34-14 FD 117) (DMT)
>
> Date of Issue: 8 April 47

The list below is from the appendix to [CAO 269-1 (1947)]. Trades presumed obsolete in the [CARO 6579 (1946)] list above have been eliminated. Trades that were in [CARO 6579 (1946)], but are missing from this list are highlighted using strikethrough text.

Armourer - Group 1, Group 2, Group 3 trade.

Armament Artificer (Anti-aircraft) - Group 4 trade.

Armament Artificer (Coast Defence) - Group 4 trade.

Armament Artificer (Field) - Group 4 trade.

Bandsman - Group 1, Group 2 trade.

Blacksmith - Group 1, Group 2 trade.

Body Repairman - Group 1, Group 2, Group 3 trade. Panel Beater was renamed to Body Repairman.

Carpenter - Group 1, Group 2 trade.

Clerk (Accounting) - Group 1, Group 2, Group 3 trade.

Clerk (Administrative) - Group 1, Group 2, Group 3 trade.

Draughtsman (Mechanical) - Group 1, Group 2, Group 3 trade.

Driver Mechanic (Tracked) - Group 1 trade. The Driver Mechanic trade was split into Driver Mechanic (Tracked) and Driver Mechanic (Wheeled).

Driver Mechanic (Wheeled) - Group 1 trade. The Driver Mechanic trade was split into Driver Mechanic (Tracked) and Driver Mechanic (Wheeled).

Driver Operator - Group 1 trade.

Electrical Artificer - Group 4 trade, renamed from Armament Artificer (Electrical).

Electrician (Control Equipment) - Group 1, Group 2, Group 3 trade.

Electrician (Vehicle and Plant) - Group 2, Group 3 trade.

Fitter - Group 1, Group 2, Group 3 trade.

~~Grinder, Precision~~ - not listed. Presumed obsolete.

Instrument Artificer (Anti-aircraft) - Group 4 trade, renamed from Armament Artificer Instruments (Anti-aircraft).

Instrument Artificer (Coast Defence) - Group 4 trade, renamed from Armament Artificer Instruments (Coast Defence).

Instrument Artificer (Field) - Group 4 trade, renamed from Armament Artificer Instruments (Field).

Instrument Mechanic (Electrical) - Group 1, Group 2, Group 3 trade. A splitting of the Instrument Mechanic trade into Instrument Mechanic (Electrical) and (Optical). The Watchmaker trade was reinstated as a separate trade.

Instrument Mechanic (Optical) - Group 1, Group 2, Group 3 trade. A splitting of the Instrument Mechanic trade into Instrument Mechanic (Electrical) and (Optical). The Watchmaker trade was reinstated as a separate trade.

Machinist (Metal) - Group 3 trade.

Machinist (Wood) - Group 2 trade.

Millwright - Group 1, Group 2, Group 3 trade.

Moulder - Group 1, Group 2 trade.

Painter - Group 1, Group 2 trade

Pattern Maker - Group 1, Group 2, Group 3 trade.

Photographer - Group 1, Group 2, Group 3, Group 4 trade.

Plumber - Group 1, Group 2, Group 3 Plumber trade.

Riveter - Group 1, Group 2 trade.

Saddler - changed to a Group 1, Group 2 trade.

Sawyer - Group 1, Group 2, Group 3 trade.

Senior Projectionist - Group 1, Group 2 trade.

Sheet Metal Worker - Group 1, Group 2 trade.

Storeman - Group 1, Group 2, Group 3 trade.

Telecommunication Artificer - Group 4 trade. New Trade ex-Group 4 Telecommunication Mechanic.

Telecommunication Mechanic - Group 1, Group 2, Group 3 trade.

Tire Repairman - Group 1, Group 2 trade. Replaced the Mechanic, Tire Maintenance trade.

Toolmaker - Group 1, Group 2, Group 3 trade.

~~Trimmer and Upholsterer, Coach~~ - not listed in the CAO.

Turner - Group 1, Group 2 trade.

Typewriter Mechanic - Group 1, Group 2 trade.

Vehicle Artificer - Group 4 trade. Replaced the Armament Artificer (Vehicle).

Vehicle Mechanic (Tracked) - Group 2, Group 3 trade. The Vehicle Mechanic trade was split into Vehicle Mechanic (Tracked) and Vehicle Mechanic (Wheeled).

Vehicle Mechanic (Wheeled) - Group 2, Group 3 trade. The Vehicle Mechanic trade was split into Vehicle Mechanic (Tracked) and Vehicle Mechanic (Wheeled).

Watchmaker - Group 1, Group 2, Group 3 trade. This was removed from the Instrument Mechanic trade.

Welder (Acetylene and Electric) - Group 1, Group 2 trade.

Wheeler - Group 1, Group 2 trade.

RCEME Trades in 1949 as listed in [CAO 269-1 (1949)]

Canadian Army Order 269-1 dated 8 April 1947 was replaced by CAO 269-1 dated 22 August 1949. In addition to listing all the trades in the Canadian Army, the trades were assigned to individual Corps.

The preamble to CAO 269-1 dated 22 August 1949 stated:

> (269-1)
>
> TRADE DESIGNATIONS - GROUPING OF TRADES -
> RESPONSIBILITY FOR TRAINING AND CORPS AFFILIATION
>
> A trades training instruction was issued under cover of HQ 130-60-1 Vol 4 (Trg), dated 31 March 1949, which modified the trades structure of the Canadian Army.
>
> As a result of the above-mentioned instruction a trade specification for each authorized trade in the Canadian Army has been, or will be, issued. The appendix to this order lists the trades for which specifications have been or will be issued, giving the designation of the trade, the groups authorized, responsibility for the training of personnel, and the corps to which personnel belong.
>
> Personnel employed at a trade which is redesignated will be remustered in the new trade name immediately. Where it is necessary to amend establishments to reflect this new trade, Army Headquarters will initiate the necessary action. In cases where the qualification requirements are changed at the same time as the trade is redesignated, special instructions will be issued.
>
> Attention is directed to KR (Can) 360 and CAO 271-5, which make provision for transferring members between corps under certain circumstances.
>
> Supersedes CAO 269-1 issued 8 April 47.
>
> Date of Issue: 22 Aug 49
>
> (HQ 130-50-1 TD 35) (DMT)

CAO 269-1 dated 22 August 1949 was amended by CAO 269-1 dated 6 February 1950. This is considered a minor amendment, with the only reference to RCEME being the creation of the Instructor (RCEME) trade.

The list below is from CAO 269-1 dated 22 August 1949 and includes the 6 February 1950 amendment. Revisions from CAO 269-1 dated 8 April 1947 are indicated. Unless otherwise noted, all trades in the list were assigned to RCEME. Trades with a strikethrough had been RCEME, but were either assigned to other Corps and removed from RCEME, or were classified as wartime trades and reduced to nil strength. Minor trades that were open to all Corps (eg Parachute Rigger) not listed below.

Armourer - Group 2, Group 3 trade. Note the missing Group 1. The Fitter Group 1 probably served as the Armourer Group 1.

Armament Artificer (Anti-aircraft) - Group 4 trade.

Armament Artificer (Coast Defence) - Group 4 trade.

Armament Artificer (Field) - Group 4 trade.

Bandsman - Group 1, Group 2 trade. Open to any Corps.

~~Blacksmith~~ - the trade is not listed.

Body Repairman - Group 1, Group 2, Group 3 trade.

~~Carpenter~~ - Group 1, Group 2 trade. The trade was assigned to the RCE and no longer applied to RCEME.

~~Clerk (Accounting)~~ - Group 1, Group 2, Group 3 trade. The trade was assigned to other Corps and no longer applied to RCEME.

Clerk (Administrative) - Group 1, Group 2, Group 3 trade. Trade was open to any Corps.

Draughtsman (Electrical and Mechanical) - Group 1, Group 2, Group 3 trade.

Driver Mechanic (Tracked) - Group 1 trade. The trade was also open to RCAC, RCE and RCA. The trade functioned as the Group1 level for the Vehicle Mechanic (Tracked) trade.

Driver Mechanic (Wheeled) - Group 1 trade. The trade was also open to the RCA, RCAC, RCE, RC Sigs, RCIC, RCASC, RCOC, and C Pro C. The trade functioned as the Group1 level for the Vehicle Mechanic (Wheeled) trade.

Driver Operator - Group 1 trade. The trade was open to many Corps.

Electrical Artificer - Group 4 trade.

Electrical Mechanic - Group 1, Group 2, Group 3 trade. This apparently replaced the Electrician (Control Equipment) trade.

~~Electrician (Vehicle and Plant)~~ - the trade is not listed.

Fitter - Group 1, Group 2, Group 3 trade. The trade was also open to CAC, RCA, RCE, RC Sigs, and RCASC.

Instructor (RCEME) - Group 1, Group 2, Group 3 trade. This trade was added by [CAO 269-1 dated 6 February 1950].

Instrument Artificer (Anti-aircraft) - Group 4 trade.

Instrument Artificer (Coast Defence) - Group 4 trade.

Instrument Artificer (Field) - Group 4 trade.

Instrument Mechanic (Electrical) - Group 1, Group 2, Group 3 trade.

Instrument Mechanic (Optical) - Group 1, Group 2, Group 3 trade.

Line Mechanic - Group 1, Group 2, Group 3 trade. The trade was also open to the RC Sigs. New trade.

Machinist (Metal) - Group 1, Group 2, Group 3 trade.

Machinist (Wood) - Group 2 trade.

~~Millwright~~ - Group 1, Group 2, Group 3 trade. The trade was assigned to the RCE (wartime only) and no longer applied to RCEME.

~~Moulder~~ - Group 1, Group 2 trade. The trade was assigned to RCEME, but as a wartime trade only.

~~Painter~~ - Group 1, Group 2 trade. The trade was assigned to the RCE and no longer applied to RCEME.

Pattern Maker - Group 1, Group 2, Group 3 trade.

~~Photographer~~ - Group 1, Group 2, Group 3, Group 4 trade. The trade was assigned to the RCE and no longer applied to RCEME.

~~Plumber~~ - Group 1, Group 2, Group 3 trade. The trade was assigned to the RCE and no longer applied to RCEME.

Radar Mechanic - Group 1, Group 2, Group 3 trade. New trade, initially also open to the RCA, but this was cancelled in [CAO 269-1 dated 6 February 1950].

Radio Mechanic - Group 1, Group 2, Group 3 trade. New trade also open to RC Sigs.

Riveter - Group 1, Group 2 trade.

~~Saddler~~ - the trade is not listed.

~~Sawyer~~ - Group 1, Group 2, Group 3 trade. The trade was assigned to the RCE as a wartime trade only and no longer applied to RCEME.

Senior Projectionist - Group 1, Group 2 trade.

~~Sheet Metal Worker~~ - Group 1, Group 2 trade. The trade was assigned to the RCE and no longer applied to RCEME.

Small Arms Artificer. Group 4 trade. New trade.

Storeman Clerk - Group 1, Group 2, Group 3 trade. Open to any Corps.

Telecommunication Artificer (Radar) - Group 4 trade. New trade.

Telecommunication Artificer (Wireless) - Group 4 trade. New trade.

~~Telecommunication Mechanic~~ - The trade was split into Radio Mechanic and Radar Mechanic trades.

Tire Repairman - Group 2, Group 3 trade.

Toolmaker - Group 1, Group 2, Group 3 trade.

~~Turner~~ - the trade is not listed.

Typewriter Mechanic - Group 1, Group 2 trade.

Vehicle Artificer - Group 4 trade.

Vehicle Mechanic (Tracked) - Group 2, Group 3 trade. Also open to RCAC, RCA, RCE.

Vehicle Mechanic (Wheeled) - Group 2, Group 3 trade. Also open to RCAC, RCA, RCE, RCSigs, and RCASC.

Watchmaker - Group 1, Group 2, Group 3 trade.

Welder ~~(Acetylene and Electric)~~ - Group 1, Group 2, Group 3 trade. The specialties were removed and a single trade created.

~~Wheeler~~ - the trade is not listed.

RCEME Trades in 1950 as listed in [CAO 269-1 (1950)]

Canadian Army Order 269-1 dated 22 August 1949 was replaced by CAO 269-1 dated 27 November 1950. In addition to listing all the trades in the Canadian Army, the trades were assigned to individual Corps.

The list below is from CAO 269-1 dated 27 November 1950. Revisions from CAO 269-1 dated 22 August 1949 are indicated by strikethrough or a note. Unless otherwise noted, all trades in the list were assigned to RCEME. Minor trades that were open to all Corps (eg Parachute Rigger) not listed below.

Armament Artificer (Anti-aircraft) - Group 4 trade.

Armament Artificer (Coast Defence) - Group 4 trade.

Armament Artificer (Field) - Group 4 trade.

Armourer - Group 2, Group 3 trade.

Bandsman - Group 1, Group 2 trade. Open to any Corps.

Body Repairman - Group 1, Group 2, Group 3 trade.

Clerk (Administrative) - Group 1, Group 2, Group 3 trade. Trade was open to any Corps.

Draughtsman (Electrical and Mechanical) - Group 1, Group 2, Group 3 trade.

Driver Mechanic (Tracked) - Group 1 trade. The trade was also open to RCAC, RCE and RCA. The trade functioned as the Group1 level for the Vehicle Mechanic (Tracked) trade.

Driver Mechanic (Wheeled) - Group 1 trade. The trade was also open to the RCA, RCAC, RCE, RC Sigs, RCIC, RCASC, RCOC, and C Pro C. The trade functioned as the Group1 level for the Vehicle Mechanic (Wheeled) trade.

Driver Operator - Group 1 trade. The trade was open to RCAC, RCA, RCIC, RCE, RC Sigs and RCEME.

Electrical Artificer - Group 4 trade.

Electrical Mechanic - Group 1, Group 2, Group 3 trade.

Fitter - Group 1, Group 2, Group 3 trade. The trade was now only open to RCEME.

Instructor (RCEME) - Group 1, Group 2, Group 3 trade.

Instructor Air Supply - Group 1, Group 2 trade. Open to RCE, RCASC, RCAMC, RCOC, and RCEME.

Instrument Artificer (Anti-aircraft) - Group 4 trade.

Instrument Artificer (Coast Defence) - Group 4 trade.

Instrument Artificer (Field) - Group 4 trade.

Instrument Mechanic (Electrical) - Group 1, Group 2, Group 3 trade.

Instrument Mechanic (Optical) - Group 1, Group 2, Group 3 trade.

~~Line Mechanic~~ - Group 1, Group 2, Group 3 trade. The trade was assigned to the RC Sigs and removed from RCEME. Replaced in RCEME by the Telecommunications Mechanic trades (see below).

Machinist (Metal) - Group 1, Group 2, Group 3 trade.

Machinist (Wood) - Group 2 trade.

~~Moulder~~ - Group 1, Group 2 trade. The trade was assigned to RCEME, and still in the trades list, but as a wartime trade only.

Pattern Maker - Group 1, Group 2, Group 3 trade.

~~Radar Mechanic~~ - The trade was deleted and replaced in RCEME by the Telecommunications Mechanic trades (see below).

~~Radio Mechanic~~ - The trade was assigned to the RC Sigs and removed from RCEME. Replaced in RCEME by the Telecommunications Mechanic trades (see below).

~~Riveter~~ - trade not listed.

Senior Projectionist - Group 1, Group 2 trade.

Small Arms Artificer. Group 4 trade.

Storeman Clerk - Group 1, Group 2, Group 3 trade. Open to any Corps.

Telecommunication Artificer (Radar) - Group 4 trade.

Telecommunication Artificer (Wireless) - Group 4 trade.

Telecommunication Mechanic (Field) - Group 1, Group 2, Group 3 trade. New trade. Replaced Line Mechanic, Radio Mechanic, and Radar Mechanic in RCEME.

Telecommunication Mechanic (Lines of Communication) - Group 1, Group 2, Group 3 trade. New trade. Replaced Line Mechanic, Radio Mechanic, and Radar Mechanic in RCEME.

Telecommunication Mechanic (Radar) - Group 1, Group 2, Group 3 trade. New trade. Replaced Line Mechanic, Radio Mechanic, and Radar Mechanic in RCEME.

Tire Repairman - Group 2, Group 3 trade.

Toolmaker - Group 1, Group 2, Group 3 trade.

Typewriter Mechanic - Group 1, Group 2 trade.

Vehicle Artificer - Group 4 trade.

Vehicle Mechanic (Tracked) - Group 1, Group 2, Group 3 trade. Also open to RCAC, RCA, RCE. Group 1 added to the trade, Driver Mechanic is no longer the Vehicle Mechanic Group 1 trade.

Vehicle Mechanic (Wheeled) - Group 1, Group 2, Group 3 trade. Also open to RCAC, RCA, RCE, RCSigs, and RCASC. Group 1 added to the trade, Driver Mechanic is no longer the Vehicle Mechanic Group 1 trade.

Watchmaker - Group 1, Group 2, Group 3 trade.

Welder - Group 1, Group 2, Group 3 trade.

RCEME Trades in 1952 as listed in [CAO 269-1 (1952)]

Canadian Army Order 269-1 dated 27 November 1950 was replaced by CAO 269-1 dated 5 May 1952. In addition to listing all the trades in the Canadian Army, the trades were assigned to individual Corps.

The list below is from CAO 269-1 dated 5 May 1952. Revisions from CAO 269-1 dated 27 November 1950 are indicated by strikethrough or a note. Unless otherwise noted, all trades in the list were assigned to RCEME. Minor trades that were open to all Corps (e.g. Parachute Rigger) not listed below.

Armament Artificer (Anti-aircraft) - Group 4 trade.

Armament Artificer (Coast Defence) - Group 4 trade.

Armament Artificer (Field) - Group 4 trade.

Armourer - Group 1, Group 2, Group 3 trade. Group 1 added to the trade.

Bandsman - Group 1, Group 2, Group 3 trade. Open to any Corps.

Body Repairman - Group 1, Group 2, Group 3 trade.

Clerk (Administrative) - Group 1, Group 2, Group 3 trade. Trade was open to any Corps.

Draughtsman (Electrical and Mechanical) - Group 1, Group 2, Group 3 trade.

Driver Mechanic (Tracked) - Group 1 trade. The trade was also open to RCAC, RCE and RCA. The trade was changed to a specialty.

Driver Mechanic (Wheeled) - Group 1 trade. The trade was also open to the RCA, RCAC, RCE, RC Sigs, RCIC, RCASC, RCOC, and C Pro C. T The trade was changed to a specialty.

Driver Operator - Group 1 trade. The trade was open to RCAC, RCA, RCIC, RCE, RC Sigs and RCEME. The trade was changed to a specialty.

Electrical Artificer - Group 4 trade.

Electrical Mechanic - Group 1, Group 2, Group 3 trade.

Fitter - Group 1, Group 2, Group 3 trade. The trade was now only open to RCEME.

Instructor (RCEME) - Group 1, Group 2, Group 3 trade. The trade was changed to a specialty.

Instructor Air Supply - Group 1, Group 2 trade. Open to RCE, RCASC, RCAMC, RCOC, and RCEME. The trade was changed to a specialty.

Instrument Artificer (Anti-aircraft) - Group 4 trade.

Instrument Artificer (Coast Defence) - Group 4 trade.

Instrument Artificer (Field) - Group 4 trade.

Instrument Mechanic (Electrical) - Group 1, Group 2, Group 3 trade.

Instrument Mechanic (Optical) - Group 1, Group 2, Group 3 trade.

Machinist (Metal) - Group 1, Group 2, Group 3 trade.

Machinist (Wood) - Group 2 trade. Wartime trade only.

Moulder - Group 1, Group 2 trade. Assigned to RCEME, and still in the trades list, but as a wartime trade only.

Operator (Radio Telephony). New Group 1 Specialty. Open to RCAC, RCA, RCE, RC Sigs, RCIC, and RCEME. Allied to the Driver Operator.

Pattern Maker - Group 1, Group 2, Group 3 trade.

Projector Mechanic - Group 1 Group 2 trade. Replaced Senior Projectionist trade.

Recovery Mechanic - Group 2, Group 3 trade. New trade in the Vehicle Mechanic family.

Small Arms Artificer. Group 4 trade.

Storeman Clerk - Group 1, Group 2, Group 3 trade. Open to any Corps.

Telecommunication Artificer (Radar) - Group 4 trade.

Telecommunication Artificer (Wireless) - Group 4 trade.

Telecommunication Mechanic (Field) - Group 1, Group 2, Group 3 trade. Replaced Line Mechanic, Radio Mechanic, and Radar Mechanic in RCEME.

Telecommunication Mechanic (Lines of Communication) - Group 1, Group 2, Group 3 trade. Replaced Line Mechanic, Radio Mechanic, and Radar Mechanic in RCEME.

Telecommunication Mechanic (Radar) - Group 1, Group 2, Group 3 trade. Replaced Line Mechanic, Radio Mechanic, and Radar Mechanic in RCEME.

Tire Repairman - Group 1, Group 2, Group 3 trade. Group 1 added to the trade.

Toolmaker - Group 1, Group 2, Group 3 trade.

Typewriter Mechanic - Group 1, Group 2 trade. Group 3 of the trade transferred to the Telecommunication Mechanic (Lines of Communication).

Vehicle Artificer - Group 4 trade.

Vehicle Mechanic (Tracked) - Group 1, Group 2, Group 3 trade. Also open to RCAC, RCA, RCE.

Vehicle Mechanic (Wheeled) - Group 1, Group 2, Group 3 trade. Also open to RCAC, RCA, RCE, RCSigs, and RCASC.

Watchmaker - Group 1, Group 2, Group 3 trade.

Welder - Group 1, Group 2, Group 3 trade.

A Summary of the Changes in Canadian Army Trades, 1945 to 1952

From the RCEME Quarterly, Volume 4, No. 3,
by Lieutenant W.A. Thomas
The article is reproduced in its entirety, with minor editing for a modern reader.

In 1952, in the RCEME Quarterly, Volume 4, No. 3, Lieutenant W.A. Thomas summarized the changes that had taken place in the Canadian Army Trades Structure since 1945.

Some fundamental changes in trades training policy have gradually taken place since 1945. To bring up to date those of our readers who are Supplementary Reserve officers, the following article describes these changes, and the purpose behind them.

During World War II, the Canadian Army trade structure followed that of the British Army and a tradesman's skill was denoted by the letters A, B, and C, with Group A being the highest obtainable.

As new equipments were produced, trades were expanded to cope with the repair problem. For instance, fitters repaired all types of vehicles, but as more and more tanks were used, the vehicle mechanic trade was created and classified either as Vehicle Mechanic (Wheeled) or Vehicle Mechanic (Tracked). This trend was reflected throughout all the mechanical and electrical groups to such an extent that, when the end of the war brought its inevitable retrenchment, the expanded trade structure was reduced and an overlapping of repair functions followed.

As a result of this regrouping, the tradesman was expected to repair a wide variety of equipment, simply because the highly mechanized Canadian Army did not intend to retain an overlarge body of technical personnel to maintain its equipment.

A major postwar change occurred in October 1946 when the three trade Groups A, B, and C were replaced by four groups known as Group 1, 2 , 3, and 4, with the highest being Group 4.

Following this regrouping, trade “standards” were replaced by trade “specifications” demanding a higher degree of skill. To meet this requirement, the length of the technical training programme was increased, although it was anticipated that, on mobilization, the standard of skill required would have to be lowered due to a shorter training time. (It is interesting to note that [in 1952] the British were considering a Group 5 for the electrical and electronic trades because of the higher education and specialized training required.)

To train tradesmen for RCEME, the following plan was decided upon. Reports from the Korean and European theatres have since shown the soundness of this program. The present system of training closely parallels that of industry. After the completion of basic military training — common to all arms — the soldier is guided into the technical career field for which he is best suited, or where a shortage of mechanics exists. If the soldier does not adapt himself, he may later re-muster to another career field. The number of tradesmen who have requested such a move is surprisingly small.

The Group 1 tradesman is a junior apprentice and, after a four or five year training programme (apprenticeship), he will have reached the journeyman level. The majority of Group 1 tradesmen are trained at the RCEME School. The Group 1 course is designed to enable the soldier to be productively employed in a RCEME workshop. The length of Group 1 courses has been set at twelve weeks, although it may vary for some trades. These courses are both practical and theoretical, with the emphasis on practical work. Enough theory is included in the Group 1 course to enable him to progress without difficulty to the Group 2 level.

After the craftsman has completed his Group 1 training he is posted to a RCEME workshop to gain experience while employed on the job. It is at this point in his career that supervision and guidance is required. This is usually arranged for by placing him with a Group 3 or 4 tradesman, who is the senior apprentice or journeyman respectively of the trade.

The word “functions”, as applied to trades training, implies the specific operation or knowledge required to repair, manufacture, or rework parts, components, or assemblies common to the trade. A trade is divided into several functions and, as a tradesman advances in knowledge and skill, he may be certified proficient by his commanding officer, or he may pass a trade test to qualify him in these functions. Each function is given a serial number and the lower numbers usually indicate the more basic operations or skills. After approximately a year, the Group 1 craftsman should have worked on a sufficient variety of jobs to be proficient in additional functions of his trade. This is known as in-job training, and is the present method used to upgrade Group 1 tradesmen.

Here is an example of a craftsman's progress. The vehicle mechanic has been chosen, as this is, quantitatively, the predominant trade in the Corps. After the Group 1 course the tradesman, now in a workshop, has assisted in the removal and replacement of several engine assemblies, rear axles, transmissions, and transfer cases. For all practical purposes, he is now proficient in six functions of the trade, and is certified by his CO as being a qualified vehicle mechanic Group 2. However, it is quite apparent that there is a great deal more to learn and the in-job training period carries on to cover the remaining functions of the trade. For instance, the vehicle mechanic has not yet done a top overhaul on an engine, nor has he fitted king pins, adjusted the steering mechanism or completed a tune-up on the ignition system. It is at this point in the craftsman's training that he moves out of the junior apprentice class, but he is still not a senior apprentice and additional training on the job is required.

It is assumed that the in-job training will continue for at least another two years although definite time limits have been waived. It was found impractical and unfair to state that a tradesman must spend so much time in each group, as some tradesman advanced faster either by their greater ability, or by taking correspondence courses and night school training. Others may have had previous trade experience. The up-grading factor must be flexible enough to accommodate all types of men.

Since 1946, a tradesman must complete a Group 3 course, or pass a trade test, to qualify for Group 3 trades pay. The object of training by the course method is

to ensure that a minimum desirable standard is maintained for the Group 3 level;

to see that any functions of the trade which could not be adequately handled by in-job training would be taught during the course (for example very few RCEME workshops carry out extensive repairs to hydramatic transmissions so this subject is taught in the Group 3 course), and

(b) to train RCEME tradesmen, who are attached to armoured, infantry, and artillery units, to the standard next to the artificer or Group 4 level.

(c) RCEME always endeavours to provide the highest-trained tradesmen for user units to keep up the maintenance standard, and so ensure the maximum serviceability of technical equipment.

Continuing up the ladder of advancement, the artificer or Group 4 level is reached. A brief outline of artificer characteristics follows. In civilian fields of employment the shop foreman, service manager, or workshop supervisor is one of the mainsprings that keep the train of production rolling. There is a very definite need for a tradesman of the foreman caliber with an extensive technical background who can supervise mechanics so that a repair or production programme can be efficiently completed. In the Canadian Army these tradesmen are known as artificers, and they represent the most highly skilled group in their own technical field.

It should be the aim of every craftsman some day to become an artificer. This is not an easy goal to reach by any means. Here is the procedure at the present time. An artificer candidate must be Group 3, usually a sergeant with at least three years in rank, and must have proven supervisory ability. Before attending the artificer assessment course he must be recommended by his CO as to his technical and supervisory ability. In addition he will have polished up the seat of his pants studying a specified academic course. The artificer assessment period which the candidate goes through at the RCEME School is exceptionally exacting. An unsuccessful candidate may try again, but the second attempt is usually the last. Due to the thorough screening of the artificer candidates by a board of officers, very few candidates actually fail once they have passed the board.

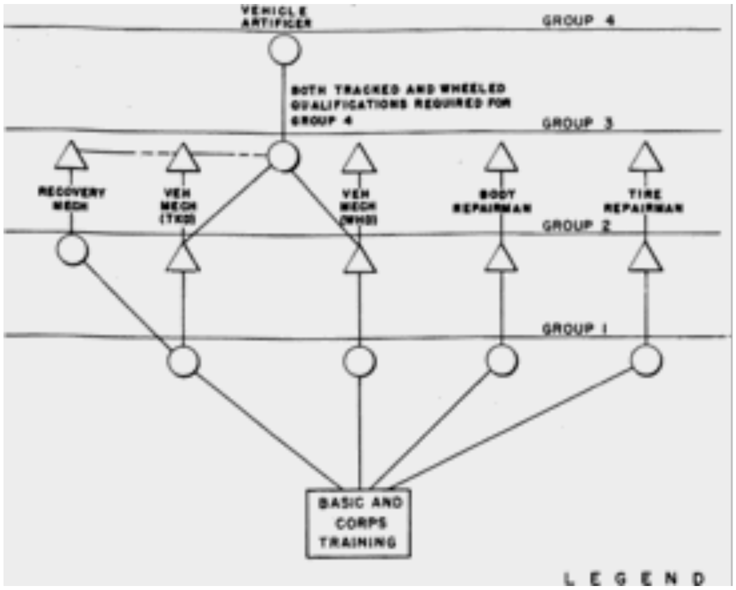
The artificer course usually lasts ten or twelve months and includes a wider field of equipments and techniques than that encountered at the Group 3 level. For example, vehicle recovery training is given to all artificer candidates even though a “tels tiffy” does not normally do recovery work. However, as an artificer he is expected to be familiar with all of the Corps’ primary responsibilities.

On completion of the artificer course, successful candidates are eligible for promotion to the rank of staff sergeant when his CO approves his promotion, a vacancy exists in the applicable trade group, and he is near the top of the seniority list for his trade.

For the purpose of career planning, it has been necessary to consolidate trades so that a tradesman may progress from Group 1 through to Group 4, and this is where the term “allied trades” is used. The term may be explained by stating that the body repairman and recovery mechanic are allied trades of the vehicle career field. By means of a conversion course both tradesmen may progress to the Group 4 artificer level. A diagram of the vehicle and telecommunication career fields is shown here to illustrate progression in these trades.

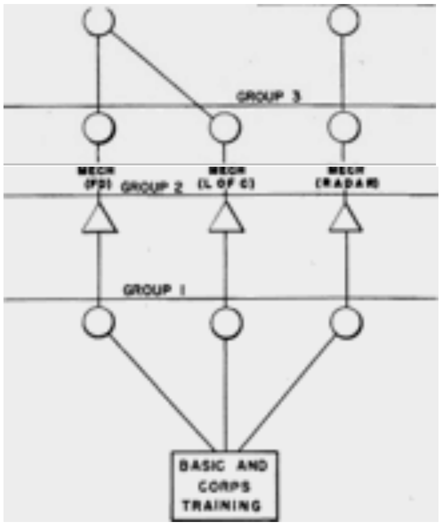
Trades which are difficult to place in an artificer or Group 4 field are gradually being deleted where possible, and provision made for the necessary conversion course in trades which must be retained. Examples of trades which have been removed from the RCEME trade structure are coach painter, sheet metal worker, textile re-fitter, tinsmith, and turner. Recent additions to our trade structure are small arms artificer, recovery mechanic, and instructor RCEME.

Further changes are contemplated and these may be dealt with in future articles In the meantime it is hoped that the foregoing notes have given the reader a review of recent changes in the RCEME trade structure.



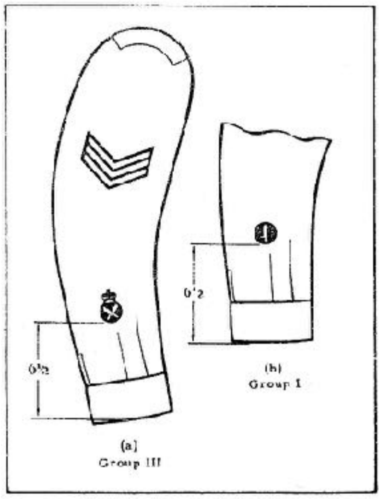
TELECOMMUNICATION CAREER FIELD

TEL/ WIRELESS GROUP



The Tradesman and Specialty Badges

The RCEME Technical Bulletin Vol. 2 No. 2 (October 1957) summarized the current situation with respect to the wearing of trades badges. A tradesman was qualified to wear a trades badge when he had complied with the regulations contained in the Canadian Army Manual of Trades and Specialties. The were worn on the right sleeve of patrol dress, summer service dress, and battledress, as illustrated in the figure below. the badges were of worsted drab material.



METHOD OF WEARING
TRADESMAN BADGES

The badges denoted the level of the trade qualification groups as follows:

Group 1 - Trade or specialty device alone;

Group 2 - Trade or specialty device and wreath;

Group 3 - Trade or specialty device and crown;

Group 4 - Trade or specialty device with crown and wreath,

Table 1 - RCEME Tradesmen Specialists and Badges

Trade or Specialty	Distinctive Device For Trade or Specialty
Steward Storeman Clerk	A pair of hand scales in balance
Fire Control System Artificer AA Fire Control System Technician AA Gun Mechanic Small Arms Artificer	A spanner superimposed on a cannon
Assistant Instructor Physical Training	Crossed swords
Assistant Instructor RCEME Assistant Instructor Parachute Training	The letters "IC" in monogram

Trade or Specialty	Distinctive Device For Trade or Specialty
Bandsman Bugler Drummer or Fifer Piper Trumpeter	A lyre A bugle suspended by strings A drum Bagpipes Crossed trumpets
Clerk Administrative Clerk Stenographer	Crossed quills
Draughtsman Electrical and Mechanical	An open pair of dividers on a triangle
Driver Mechanical Transport	A steering wheel
Driver Operator	Crossed signaller's flags
Electrical Artificer Electrical Mechanic Radar Artificer Radio Technician Radio Artificer Radio Technician	A lightning bolt crossed through a pair of electrician's pliers
Instrument Artificer Harbour Defence and Anti-Aircraft Instrument Artificer Field Instrument Mechanic Optical Typewriter Mechanic Watchmaker	Crossed jewellers screwdriver and tweezers
Linguist	The word "LINGUIST" in an upward curve
Shoe Repairer	An awl and threaded needle, crossed
Machinist Fitter Moulder Toolmaker	A gear wheel with a keyed shaft hole
Body Repairman Tire Repairman Vehicle Artificer Vehicle Mechanic Tracked Vehicle Mechanic Wheeled Welder	Vertical, a piston and connecting rod upon a diagonally placed spanner
Machinist, Wood Pattern Maker	A wooden plane superimposed upon a circular saw blade
Communication System Artificer Communication System Technician Projectionist Clerk	The letter "T"

A Summary of Trades Pay, Trade Groupings, Trades Training, and Trade Trends in 1960

An article by Captain FF Doherty from the
RCEME Technical Bulletin Vol. 6, No.1, February 1961
(reproduced in its entirety)

After many months of intensive study and conferences, new rates of pay were authorized by Treasury Board on 31 October 1960, retroactive to 1 October 1960. The aim of this article is to bring all personnel up to date on the latest changes in all RCEME trades.

Trades Pay

The rates of trades pay now authorized are:

Group 1 - $12.00 per month - no change
Group 2 - $30.00 per month - no change
Group 3 - $54.00 per month - no change
Group 3A - $63.00 per month - new rate and group
Group 4 - $72.00 per month - no change
Group 4A - $90.00 per month - new rate and group.

Trade Groupings

The allocation of trades to the new groups 3A and 4A in the three services was made by the Treasury Board based on evaluation figures supplied by the responsible sections of each service. In the Army, the Job Analysis Section of the Directorate of Organization did many months of study and put in many hours of overtime to arrive at fair evaluation figures for all Army trades.

The following is a list of trades applicable to RCEME and their authorized groups. Trades that were allocated to a higher group in the evaluation are indicated by an asterisk (*):

Aircraft Artificer Group 4A
Aircraft Technician Groups 2, and 3A
Assistant Instructor RCEME Group 3
Bandsmen (all classes)
Body Repairman Groups 1, 2, and 3
Clerk Administrative Groups 1, 2, and 3
Communication Systems Artificer Group 4
Communication Systems Technician Groups 1, 2, and 3
Draughtsman (Electrical and Mechanical) Groups 1, 2, 3A, and 4A
Driver Mechanical Transport Groups 1 and 2

Driver Radio Operator Groups 1 and 2

Electrical Artificer Group 4 (see Trades under discussion)

Electrical Mechanic* Groups 1, 2, and 3A

Fire Control System Artificer (Anti-Aircraft)* Group 4A

Fire Control System Technician (Anti-Aircraft)* Groups 1, 2, and 3A

Helicopter Technician Groups* 2, and 3A

Instrument Artificer* Group 4A

Instrument Technician* Groups 1, 2, and 3A

Machinist Fitter Groups 1, 2, and 3A

Projectionist Clerk Groups 1 and 2

Radar Artificer* Group 4A

Radar Technician* Groups 1, 2, and 3A

Radio Artificer* Group 4A

Radio Technician Groups 1, 2, and 3A

Steward Groups 1 and 2

Storeman Clerk Groups 1, 2, and 3

Typewriter Mechanic Groups 1 and 2

Vehicle Artificer Group 4 (see Trades under discussion)

Vehicle Mechanic (Tracked)* Groups 1, 2, and 3A

Vehicle Mechanic (Wheeled) Groups 1, 2, and 3A

Watchmaker Groups 1, 2, and 3

Weapons Artificer* Group 4A

Weapons Technician* Groups 1, 2, and 3A

Welder* Groups 1, 2, and 3A.

Trades Under Discussion

The trades of Electrical Artificer and Vehicle Artificer have not been reclassified to date. They are among those in the three services which are being reconsidered and re-evaluated by the Inter-Service Trades Committee (ISTC). If the ISTC considers that these trades warrant higher grouping, they will be resubmitted to the Treasury Board for their further consideration. These are the only RCEME trades which are still being studied and discussed.

Trades Training

The trades of Weapons Artificer and Weapons Technician Group 3 have been placed in groups 4A and 3A respectively. However, these higher groupings do not apply to the former trades of Armament Artificer, Small Arms Artificer, Gun Mechanic and

Armourer. Tradesmen in these trades must re-qualify in the new trades before authority to draw the higher rate of trades pay can be granted.

Armament Artificers and Small Arms Artificers must attend a conversion course at RCEME School before they can be remustered. It is expected that by 1 August 1961, all artificers will have completed the conversion course.

The specification for Weapons Technician allows two methods of re-qualifying Gun Mechanics and Armourers. One is by a conversion course at RCEME School and the other by in-job training and trade test. Due to the numbers involved and the limited capacity of the School, it is imperative that units commence in-job training immediately. Gun Mechanics Group 3 and Armourers Group 3 should be given training in the functions of the new trade which formerly belonged in the opposite trade. While the emphasis should be on in-job training for group 3 tradesmen, groups 1 and 2 tradesmen should also be given the opportunity to re-qualify as soon as possible.

While on the subject of in-job training, all officers, WOs and senior NCOs are reminded that in-job training in all trades is one of their prime responsibilities. This applies particularly to those groups of a trade where qualification to a higher group is by trade test.

A properly laid-out programme should impose no restrictions on production and should result in higher morale and a higher standard of technical efficiency.

Trade Trends

The trades of Moulder, Pattern Maker, Tire Repairman and Toolmaker are not shown in the above list of trades as they are being deleted as authorized trades. Tradesmen now in these trades will be given an opportunity to re-qualify in another trade.

The trades of Communication Systems Technician and Communication Systems Artificer have not been reclassified to date, because all trades in the electronic and electrical fields are due for restudy and rewriting. It is expected that most trades in these fields will be changed considerably as many new equipments are being introduced. When new specifications are prepared, these revised trades, or new trades if required, will be evaluated and recommended by D Org for the higher trade groupings if warranted.

The Aircraft Artificer, Airplane Technician and Helicopter Technician trades have been allocated to the higher groupings. However, qualified tradesmen in these trades cannot draw the higher pay until such time as establishments are approved and these tradesmen are posted to cover appropriate establishment positions for their trade. Trade tests are being prepared for group 2 and group 3 in both trades and it is hoped to have them issued early in the new year.

The trades of Vehicle Mechanic (Wheeled), Vehicle Mechanic (Tracked) and Vehicle Artificer are now being rewritten. Extensive changes are being made in their structure which may call for some retraining in certain groups.

Pre-Artificer Assessment
By Major HB Brown

This article is reproduced from the RCEME Technical Bulletin Vol. 6 No. 1 (February 1961). The views expressed in the article were those of the author and did not necessarily represent the views of the Director or the Army.

General

Under present conditions it can be stated that our artificers form the technical backbone of our Corps. In the light of this fact, the aim of the pre-artificer assessment, ie, to ensure that the candidate is likely to become an efficient artificer, takes on a very important significance.

If this aim is to be achieved, we must first consider some of the prime prerequisites. Although there are numerous subordinate implications these prerequisites can be briefly outlined as follows:

a. A thorough working knowledge of his trade.
b. A degree of academic knowledge that will not only enable him to pass the assessment examinations and assimilate instruction on a future artificer course but will also have developed his mental powers to the point where he can think for himself and can carry out his responsibilities with a minimum of direction.
c. A high standard of personal character and integrity that will enable him to work successfully with and for other people.
d. A strong desire to progress both academically and in his trade.

Thus, it can be seen that we require much more from the prospective artificer than an average trades knowledge and the ability to change parts. It is feared that too high a percentage of our group 3 mechanics and technicians fall into the latter category. The common conception is that the assessment takes place in April of each year arid consists of writing a few examinations at Command writing centres. This is far from the true situation. The assessment starts early in the man's career and only culminates at the writing centres.

Trade Knowledge

a. The prospective candidate must be given the opportunity of becoming familiar with all the equipments upon which he will be assessed.
b. Are our mechanics and technicians becoming primarily parts changers?
c. How much assistance, training and opportunity are given to the individual within his unit to improve his trade knowledge?

Academic Knowledge

The Manual of Trades and Specialties states that the academic prerequisite at the artificer level is grade 10 with an “M” score of 150. However at the group 1 level this prerequisite falls into two general categories of grade 10 with an “M” score of 150 for electronic trades and grade 8 with an “M” score of 130 for mechanical trades. This would indicate that all pre-artificer candidates should be assessed to the same standard. However it is realized that a high standard is more essential in the electronic trades where, in some instances, a working knowledge of grade 13 mathematics is required.

In view of the above, we have prepared two distinct sets of academic papers to reflect the requirements of each of these trade groupings and it is an easy matter to pass or fail a candidate on the basis of examination results. However there are other factors that also warrant consideration:

a. What action has the individual taken on his own, since becoming a Sr NCO, to improve his general academic knowledge?

b. How old is he, how long has he been out of school and in what grade did he graduate?

c. What assistance and opportunity has he been given to improve his knowledge of mathematics, science or chemistry?

d. Has he been assessed and given local training where necessary to improve his technique of preparing correspondence and reports?

A further method for obtaining academic qualifications is the use of DVA courses. This places a greater responsibility upon the individual and has the advantage that it can be extended over a longer period. It would also be much broader in scope. A candidate would be considered qualified when his service records reflect successful completion of a pre-selected number of subjects.

Personal Characteristics

The preparation and marking of the assessment examinations are important factors in achieving the ultimate aim. Of necessity the examinations must cover the main requirements of the respective trade specification. The value of each question must be governed by its importance in the trade, its relative importance to other questions on the paper and the time it takes to answer. This is doubly difficult when alternatives are permitted and questions must be of equal value. It is considered that essay type questions, demanding a written answer, are superior to either true and false or multiple choice problems. Therefore, even with a detailed marking guide there can be wide variations among different markers in the interpretation of the candidate's answer. Thus, it must be realized that a single major deviation or several minor deviations in the above procedures could result in an incorrect evaluation of the candidate's qualifications. For this reason great care is taken in marking the assessment examinations.

Conclusion

It is a relatively simple matter to set examinations for assessing the level of the candidate's trade knowledge. However, it is of doubtful value if consideration is not given to the following:

a. Trade specifications must be up to date in all respects.

b. Trade and EME manuals etc must be up to date and readily available.

The final decision as to who will be selected for assessment rests with the Command EME, upon recommendations of the individual's commanding officer. It is at this stage that such qualifications as personal character and integrity, ability to work with others and the will to progress must be finally and thoroughly assessed. Observations of the individual's day to day actions, his confidential reports and the attitude and effort he has shown towards improving himself will give a clear indication as to whether or not he should be recommended.

In the foregoing I have endeavoured to show some of the fundamental reasons for and the procedures which are used in carrying out a thorough assessment. A study carried out in 1959 revealed a need for changing our procedures and resulted in several improvements. A study of the 1960 assessment results brought about additional improvements. However, the assessment will not achieve its full measure of success until the following points have been clarified:

a. Is our responsibility developing into one of primarily changing parts? If so, is there still a need for such a high calibre at the group 3 level?

b. Is the employment of our present artificer more closely allied with the technical detail or with management and supervision?

c. Should the academic portion of the assessment cover more than at present? Perhaps it should include such subjects as English, grammar and letter writing.

d. How can a candidate in a small remote unit with few equipments be assured of equal opportunity with one from a larger unit?

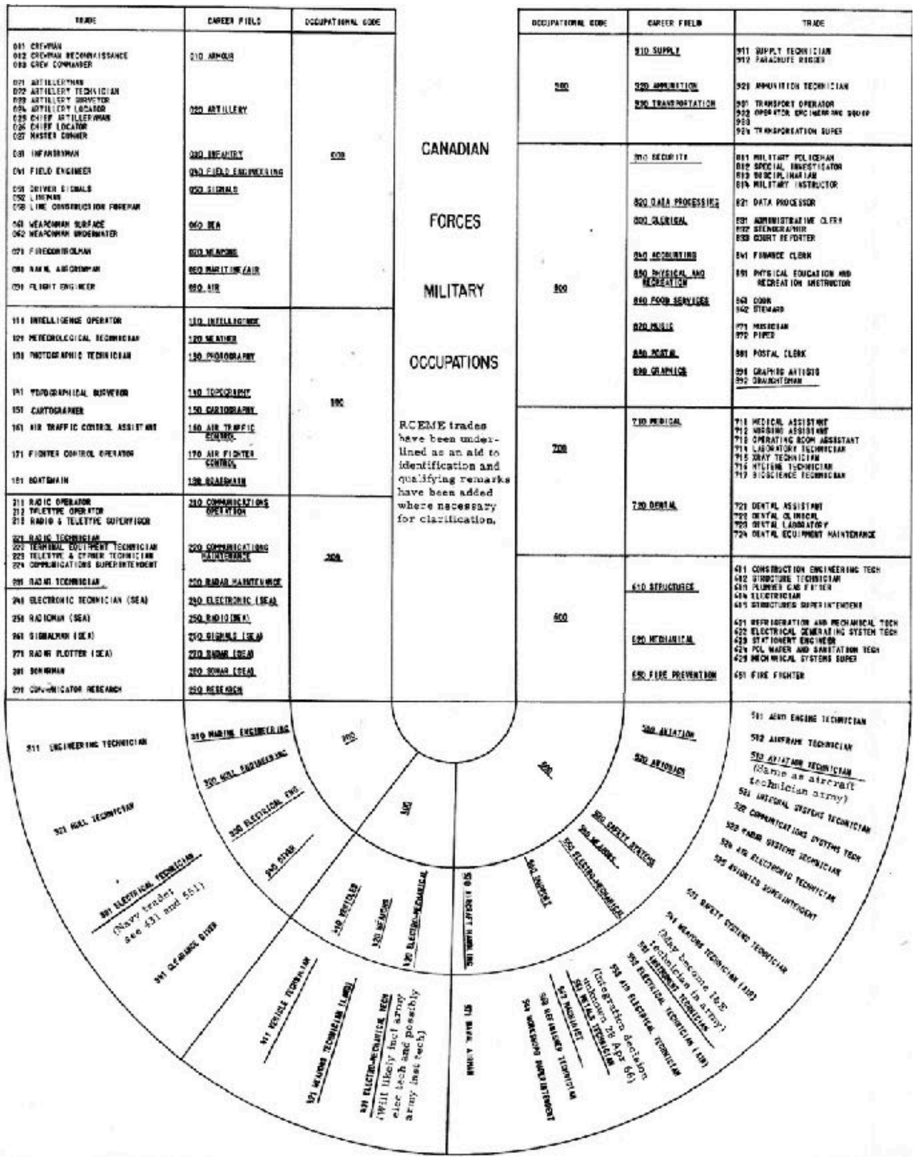
e. A candidate who passes all academic subjects with a higher average than the average of all candidates, yet fails the trade portion, is granted an academic credit. Theoretically he can carry this credit for a minimum of two and a maximum of several years before he is successful in his trade examinations. During this interim period he has had little opportunity to use this information and consequently by the time he is selected for his artificer course it has slipped from his memory. Therefore should a time limit be placed on this credit?

It should now be appreciated that a true assessment is much more than passing a few examinations. It is a continuing activity, requiring the constant attention of everyone responsible for and interested in the future of our Corps. Only by so doing will we ensure that our artificers are of the highest possible calibre.

The Canadian Forces Integrated Trade Structure in 1966

The Article “The Integration of RCEME Trades” has been reproduced below from The RCEME Technical Bulletin, Vol. 11 No. 2 (April 1966).

At this point in time there must be a large number of our Corps tradesmen who are shaking their heads in bewilderment trying to guess what the future holds for technicians who will eventually find themselves working in reorganized integrated trades.



RCEME trades have been underlined as an aid to identification and qualifying remarks have been added where necessary for clarification.

As the dust of reorganization begins to settle in some trade areas, a clearer picture of the proposed new trade organization emerges, and it is hoped that this writing will help to show the current situation.

When the integration of all trades was first considered as a result of the Government White Paper, CFHQ was directed to carry out a study to determine which trades were allied closely enough to warrant integration. Cursory results of this study indicated that, of 248 existing trades in the three services, approximately 120 are all that will be required when the new unified force comes into being.

The chart shown on our cover, is a proposed tentative regrouping of tri-service trades into suggested career fields. RCEME trades have been underlined as an aid to identification.

You may well wonder what all this is going to do for RCEME tradesmen. Before considering the advantages, an understanding of the aim of an integrated trade structure will help to clarify proposed plans for the future.

The Canadian Forces Trade Structure in its final form will provide the framework within which personnel can be recruited, selected, trained, promoted, rotated, and paid.

Unlike civilian employment, which permits an employer and an employee to accept a job at a given location, military employment must allow for the rapid posting of trained personnel to tasks that must be performed in many places in the world. To find people willing to work as military tradesmen accepting the demands of the service, it follows that the Armed Forces must offer a career with equitable pay. This is the aim of the integrated trade structure.

To assist you in understanding trade integration plans, certain terms are now commonly used in these considerations, and four of the most important terms are defined below.

> Career Field is a cluster of related trades in which, when it is absolutely necessary, posting or assignment from one trade to another within the career field will be possible to meet unforeseen and urgent needs. Promotion at the Group 4 level will be competitive within the career field.
>
> Trades are grouped in career fields, and could include up to 200 specialties within a trade.
>
> Specialties are incorporated in a trade, and will be the basis on which personnel are selected for postings and courses. For example, a number of vehicle mechanics might be chosen to attend courses on a particular vehicle or piece of equipment in use in the service in small quantities. By this method, only the number of tradesmen required to maintain the equipment would receive the training. The obvious advantage would be the savings gained through limited training costs. This specialized training would then be an important factor in the tradesman's selection for posting.
>
> Occupational Code is a career field or group of career fields related by functions.

Considerable work has already been carried out in all trade areas and, as of 16 March 1966, the situation with regard to the integration of RCEME trades is shown on the chart.

Specifically we are all curious to know if the integration of trades will eventually prove to be a good or bad thing for tradesmen.

The proposed career field concept of grouping a number of related trades promises to do more for tradesmen than anything tried in the past. All technical trades under the integrated system will allow trades progression to the top trades grouping which was not the case in the past. This means that trades such as Machinist and Metals Technician, which in the past were dead-end trades at the Group 3 corporal level, will in the new system, make it possible for tradesmen to progress to the Group 4 level.

Trades pay rates are currently under active consideration and a new system of rates will be introduced.

One of the interesting considerations of a future unified service will be the ability of certain tradesmen to perform their duties in environments which in the past were barred to them because of the independent operation of the three services. Let's face it, a vehicle mechanic is not concerned whether or not the equipment he repairs is used by personnel on an aerodrome, on a ship, or in a land environment. This statement is not all-embracing, for there are trades which are still peculiar to a particular environment. For example, it is not likely that land-based units could employ to advantage a naval clearance diver.

In summary, the introduction of a unified service trade structure promises advantages in career progression and, we hope, in pay. These have been denied to certain tradesmen in the past. Although reorganization is always confusing, hang on - the future is brighter for tradesmen than many think it is.

The RCEME Technical Bulletin, Vol 11, No. 4, in October 1966, added details about the integration of trades in the three services. It included a chart comparing the new and old trades and their assignment to different pay fields. This article was a follow-up to a very brief article entitled "The Integration of RCEME Trades" in the RCEME Technical Bulletin of April 1966.

Since it would take some time to prepare and distribute new trade specifications and related study material throughout the Canadian Forces, trade progression practices in effect on 30 September 1966 would continue to be followed, and exams, tests and courses as applicable would be based on trade specifications in effect on 15 September 1966.

Following the introduction of new trade specifications, a minimum period of six months would be allowed before personnel were required to write trade examinations based on these new trade specifications. The only exception, was in those trades where present trade qualification standards met the requirements of the new trade specification. In these trades no transitional period would be required.

New trade examinations would be introduced progressively during 1967 and their effective dates would be promulgated by CFHQ. [CFHQ DTPP 324 of 5 October 1966].

A brochure called "Canada's Armed Forces New Pay and Trade Structure" for noncommissioned ranks was handed out to personnel who attended the new pay briefings during the latter part of September 1966.

In the table below, the trades that were completely removed from RCEME are highlighted in strikethrough. The table has been correctly reproduced, but the original does contain some anomalies, such as the new LORE Weapons Technician (Land) (Pay Field 6) and others.

RCEME Army Trade (trades that were completely removed from RCEME are highlighted in strikethrough)	New CF Integrated Trade
~~Master Radio Technician~~	Communications Technician (Pay Field 7) or Avionics Technician (Pay Field 7) *Transferred to the CELE Branch.*
~~Radio Technician~~	Radio Technician (Pay Field 7) or Communications System Technician (Pay Field 7) *Transferred to the CELE Branch.*
~~Radar Technician~~ ~~Master Radar Technician~~	Radar Technician (Pay Field 7) *Transferred to the CELE Branch.*
Master Vehicle Technician	LORE Vehicle Technician (Pay Field 6)
Body Repairman	LORE Vehicle Technician (Pay Field 6) or Metals Technician (Pay Field 6) *Transferred to the Air Force.*
Welder	LORE Vehicle Technician (Pay Field 6) or Metals Technician (Pay Field 6) *Transferred to the Air Force.*
Vehicle Mechanic (Tracked) Vehicle Mechanic (Wheeled)	LORE Vehicle Technician (Pay Field 6)
Master Weapons Technician Weapons Technician	LORE Weapons Technician (Land) (Pay Field 6)
Master Instrument Technician Master Electrical Technician Instrument Technician Electrical Technician	LORE Electro-Mechanical Technician (Pay Field 6)
~~Aircraft Technician C, N&tV~~ ~~Airplane Technician~~ ~~Helicopter Technician~~	Airframe Technician (Pay Field 7) or Aviation Technician (Pay Field 7) or Aero Engine Technician (Pay Field 7) *Transferred to the Air Force.*
~~Master Aircraft Technician~~	Aviation Technician (Pay Field 7) *Transferred to the Air Force.*
~~Master Aircraft I & E Technician)~~ ~~Aircraft I & E Technician)~~	Instrument Electrical Technician (Pay Field 6) *Transferred to the Air Force.*

RCEME Army Trade (trades that were completely removed from RCEME are highlighted in strikethrough)	New CF Integrated Trade
Machinist Fitter	Machinist (Pay Field 6)
~~Metals Technician~~ ~~Metals Technician (Ground)~~ ~~Metals Technician (Air)~~	Metals Technician (Pay Field 5) *Transferred to the Air Force.*
Clerk Administration	Administrative Clerk (Pay Field 3)
Draughtsman E & M	Draughtsman (Pay Field 5)

Chapter 4 - The Post-Unification LORE/LEME/RCEME Trades

Introduction

Unification was a major trauma to the Canadian Armed Forces. The regimental system escaped by the the skin of its teeth, but almost everything else was affected. Tradition counted for nothing. Experience, tempered in war, was ignored. Corps were replaced by Personnel Administrative Branches. RCEME became the Land Ordnance Engineering Branch (LORE). The army became Mobile command (later Land Forces Command). Promotion to corporal became automatic with time in rank. Having reduced the rank of corporal to that of a first class private, it was then necessary to create an NDHQ Appointment, master corporal, to reinstate the supervisory function destroyed by the automatic promotion. At the officer level, the old army qualifying examinations for promotion from lieutenant-to-captain and captain-to-major were scrapped. Promotion to captain also became automatic.

Unification also generated a new performance-oriented approach to trades training. Trade specifications were replaced by "occupational specifications" in which rank and trade were tied together. Trade groups were replaced by pay levels (PL). Before Unification, a Group 3 craftsman (private) was rare, but did exist. Afterwards, it was impossible.

Unification left LORE with three basic trades: LORE Vehicle Technician 411, LORE Weapons Technician (Land) 421, and LORE Electro-Mechanical (ELM) Technician 431. The numbers are the military occupation code assigned to the trade. Each of the trades both lost and gained equipment and responsibilities from other parts of the Canadian Armed Forces.

As noted in the previous chapter, the other pre-Unification RCEME trades were transferred to other elements of the Canadian Armed Forces. In so doing, Unification threw away the rationale for the formation of RCEME during the Second World War. RCEME had been formed so that a single Corps would be responsible for all equipment maintenance in the Army.

For example, all RCEME welders went to the air force or became vehicle technicians (with suitable retraining). Air force welders were posted to field workshops. Not only were some of them unenthusiastic about going to the field (some loved it), but a tour in the workshop meant that they lost their "licence" to work on aircraft and had to be refreshed and retested on their return to an air element unit. There was also the question of what units would get priority for manning if the trade had shortages. Welders were an air force trade… This was a factor in the eventual formation of the Materials Technician trade (see the summary in Annex A).

The first version of this document did not include the post-Unification trades. As part of the 75th Anniversary of the Corps of RCEME, the Corps historian, Colonel Devon Matsala, was supposed to have the career managers prepare a short history of each trade. That never happened. In 2021, with the help of Major Erin Stuber, Major Janice Rossi, Major Crystal Sura, MWO (Master Gunner) Justin Simms, and others, this edition was expanded to bring the trades up to the present day.

Little information on the modern (post-Unification) trades exists in the RCEME archives. Modern files are digital, and it is very difficult for a retired person to get at the information. The main sources for this chapter are the RCEME Technical Bulletin and its successors up to the current RCEME Journal. Reading them, it was apparent that training should not be separated from the trades, and the articles in this chapter include updates to the training system. Articles have been edited for length, spelling, readability, and the removal of jargon and endless undefined abbreviations.

The chapter is divided into an introduction and an overview, followed by a separate section for each of the four modern trades. The overview serves as a timeline for major events that affected the entire Corps. The trade sections reproduce selected articles from the periodicals that give the status of a trade during the fifty years after Unification. The articles have been edited, but the full text and photographs are on the Internet Archive (https://archive.org). Search for RCEME. Trades specifications that have been found are also at that location.

The author is older than RCEME and, newspeak notwithstanding, believes that having a "trade" is an honourable profession, and does not need to be an "occupation" to pass the time. The two terms are used interchangeably. The "Canadian Army" is also referred to as such, even during the years when it was called something else.

LORE, LEME, and RCEME Trades and Training Overview

The New RCEME Trade Structure after Unification, 1967

The RCEME Technical Bulletin, Volume 12, No. 1 (January 1967) outlined the new RCEME trades structure:

> The new trade structure introduced on 1 October 1966 has resulted in the reduction in the number of different trades in RCEME. Some former RCEME trades ceased to exist, and others have been amalgamated to form a new trade. The trade changes that have caused the most concern to RCEME personnel are the deletion of the Assistant Instructor (AI) RCEME trade, and the amalgamation of the Instrument Technician and Electrical Technician trades to form the new trade of Electro-Mechanical Technician. The AI RCEME trade ceased to exist on 30 September 1966, and all personnel qualified AI RCEME who were not qualified in another RCEME trade, were remustered to the Vehicle Technician trade effective 1 October 1966. These former AI RCEME will continue to cover their present positions and will continue to perform the duties for these positions until the unit establishments are reviewed. The AI RCEME positions will be changed to technical positions, but the duties for these positions will remain the same as present.
>
> For example, the Company Sergeant Major position of a field workshop will be changed to a Technical WO2 position, but the incumbent will continue to perform the duties of a CSM. The AI RCEME positions at the RCEME School will be changed to technical positions, but the incumbents will continue to perform the duties of CSM, instructors for Senior NCO courses, regimental duties, etc. There may be some concern by vehicle technicians that the remustering of AI RCEME to vehicle technician will delay the promotion in this trade, but the former AI RCEME position accompanies the incumbent. The former AI RCEME do not cover any technician positions that were in effect on 30 September 1966, and they will not be posted to any position for which the incumbent requires technical qualification to perform the duties, until the AI RCEME is qualified to the appropriate level in his new trade. Due to age or lack of technical ability, some AI RCEME may not be able to qualify to the appropriate technical level in their new trade in order to be promoted in rank. Those personnel who cannot achieve higher qualification will remain in their present rank until normal retirement, or will be voluntarily remustered to another trade. When an AI RCEME vacates his present position, it will be filled by a technically qualified man from any RCEME trade. The technicians posted into these positions must be capable of performing the duties that the previous AI RCEME incumbent performed. Eventually all previous AI RCEME positions, now converted to technician positions, will be filled by technically qualified RCEME personnel; therefore, the technical trades are gaining more positions, which in time will increase promotions.
>
> The amalgamation of the Instrument Technician and Electrical Technician to form the new trade of Electro-Mechanical Technician is the same as the Armourer and Gun Mechanic converting to Weapons Technician a few years ago. As in the conversion to Weapons Technician, the conversion to Electro-Mechanical Technician requires many changes, which take time. New trades training standards and trades tests have to be written, conversion courses prepared to train Instrument Technicians on electrical equipment, and Electrical Technicians on

> instruments, and unit establishments must be amended to change positions to the new trade. Though all Instrument and Electrical Technicians were remustered to Electro-Mechanical Technicians on 1 October 1966, personnel will not be qualified in their new trade until they have completed conversion training. During the interim period, pending commencement of conversion training, it may be necessary to promote personnel to fill existing positions in units. If the existing position requires a technician to maintain electrical equipment, then a former Electrical Technician will be promoted, or if equipment to be maintained is instruments, then a former Instrument Technician will be promoted. When firm policy and dates for conversion training are known, personnel who meet the prerequisites for promotion as detailed in CFAO 49-4 will be selected first in order of merit.
>
> The new trade structure has created many changes in technical trades, which may cause considerable concern to individuals. In some cases this concern may be the result of insufficient or erroneous information passed on to the individual. It is impossible to provide answers to individual problems through the medium of the RCEME Technical Bulletin, but when problems that may cause concern to many individuals are known, interpretation of the current policy with regards to the problem will be published. [RCEME Technical Bulletin, Volume 12, No. 1, January 1967]

Producing the “New" Tradesman 1970

The RCEME Technical Bulletin, Volume 13, No. 3, of November 1968 noted that the design and introduction of training for the new trades was underway at the RCEME School. The courses were based on pay level training rather than group trades pay. The courses were also performance-oriented, with theory reduced to the minimum required to perform the task. At the time, the first Vehicle Technician 411 pay level 3 (PL3) coursed been completed and the second course was underway. The courses for the higher pay levels for these new trainees had not yet been created. The course for the PL3 Weapons Technician (Land) 421 was being designed and the first course would run in 1969. The course design for the PL3 Electro-Mechanical Technician 431 course had started.

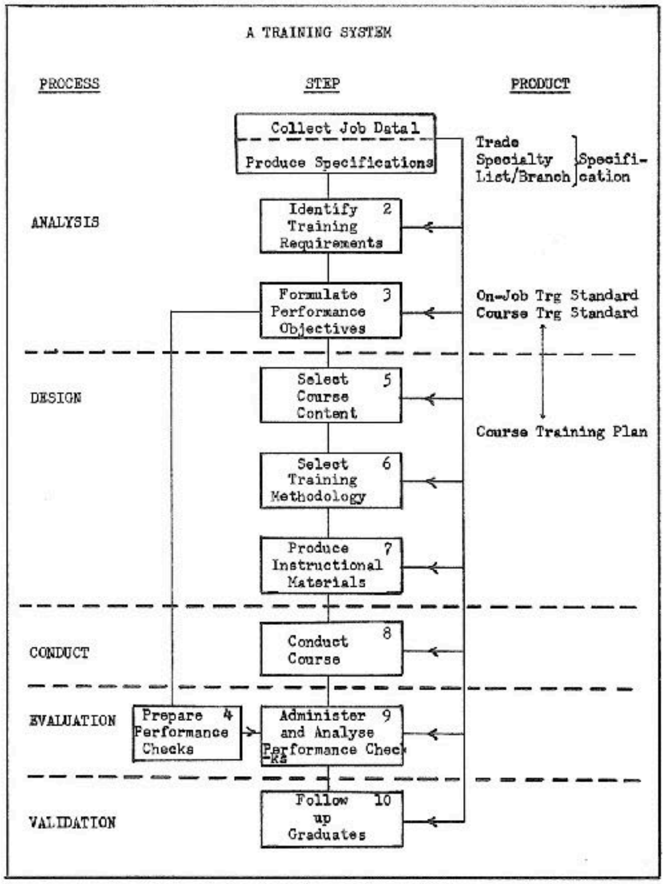
Unification centralized training for the Canadian Armed Forces under a newly-formed Training Command with its headquarters in Canadian Forces Base Trenton. On 12 September 1969, the RCEME School in Kingston was amalgamated with the Royal Canadian School of Signals to form the Canadian Forces School of Communications and Land Ordnance Engineering (CFSCLOE).

During this time, Training Command was formalizing the new Canadian Forces Training System. The system was described by Captain WW Laird, of Standards Company, CFSCLOE, in the RCEME Technical Bulletin, Volume 15, No. 1, March 1970.

> There has been a lot of talk, and many, many questions have been asked concerning the new Canadian Forces Training System (CFTS). How does it differ from the old? What sort of tradesman are we getting? What can they do? Are they better than before? When will all this be ready? How does this affect promotion and careers? This article will explain what has been done to date.
>
> The old system produced some excellent tradesmen and efficient teams. But, in the last few months a new breed of tradesman has been showing up. Different methods

of upgrading and different qualifications have been introduced. We now have level 3 tradesmen and level 4 on-job-training-standards. Some units have already completed “validation" questionnaires.

This began when the integration of the forces offered a golden opportunity to revise training to a “systems” approach, that is, the identification of performance objectives, the best methods of achieving the objective, and a means of measuring the result against a stated standard. A Canadian Forces Training Systems Manual (CFP 9000) was prepared, and it describes the processes, steps, and documents required by the CFTS as seen in the following diagram.



This chart shows the system processes, steps, and products, and how they are related to each other as the system develops. CFP 9000 introduced some new terms. For instance:

Performance Objective (PO) - a statement that describes what the tradesman is capable of on completion of training;

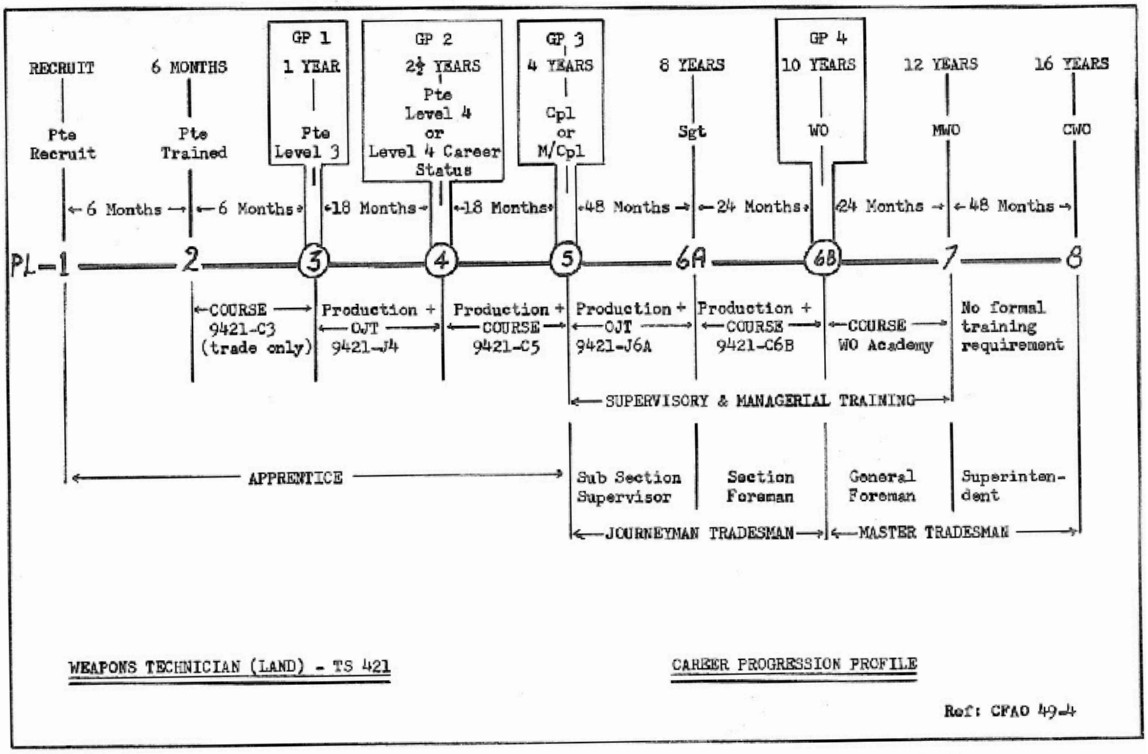
Course Training Standard (CTS) - a document controlled by Training Command that contains all the POs for a particular course;

On-Job-Training Standard (OJTS) Enabling Objective - a statement of skill or knowledge related to a PO that describes the skills and knowledge that must be taught to enable a trainee to perform a PO;

Course Training Plan (CTP) - a document controlled by a school in which each PO with its related EOs is recorded; and

Standards Company - a new group of harassed individuals who do their best to produce CFTS documents.

So, the question of how standards personnel approach the new concepts and methods must be answered. There were many facets to consider. Firstly, two very important interests had to be served. The Forces should have tradesmen who can do as much as possible with as little training as possible in as short a time as possible. Then, the serviceman or woman ought to be taught to do these things as soon as possible in his or her career and, at the same time, be provided with goals for steady and unimpeded advancement, according to his or her capability and desire. We prepared a Career Progression Profile based on CFAO 49.4.



This is a typical profile for all mechanical trades. All training is a prerequisite to the trade level and rank shown.

The diagram shows the old group system, the new level system, and the related civilian status of each, measured in time and rank with the level of training standard to be achieved.

The key to the training concept is "do". The tradesman must be trained to do the things that are normally demanded of him on his job. So, naturally, the first stage was to compile a list of tasks, including all the tasks regardless of their nature, performed from the lowest to the highest level.

We then divided the tasks within the levels. Here we considered the Permissive Repair Schedules, normal practices and, of course, the sharing of the workload according to the complexity of the task. You might regard this stage as a task analysis based on skills.

We then prepared performance objective (PO) statements for each level, allocating to each PO the skills that were required and for which training was indicated. At this point it might be wise to enlarge on what a PO really represents and how it is justified. We know that it reflects what the tradesman must do, but in addition, if we are to measure the performance, it must also have a distinctive beginning and ending. It must state the scope accurately with one action verb. It must set out the conditions which could affect the performance and also the standard at which the performance is recognized as adequate or acceptable.This is a typical profile for all mechanical trades. All training is a prerequisite to the trade level and rank shown.

When the POs for each level were prepared, they were then sequenced to form Chapter 4 of the Course Training Standard, the document that is then prepared and authorized by Training Command HQ in the form of a Canadian Forces Publication (CFP), e.g., the Weapons Technician (Land) Level 5 is CFP 9421C5.

Having an authorized CTS, it was then possible to prepare a Course Training Plan. This was done by using the same skill list used for the preparation of PO's and analyzing each skill for the knowledge requirement based on the level, that is, the higher the level, the more detailed the knowledge requirement became. Then, the more enlarged and complex list under each PO was combined into a number of Enabling Objectives, which are basically the same as a PO with one notable exception - they represent how the school intends to conduct the training. They may not necessarily reflect what a tradesman must "do” on the job, but rather, the calculated technique, method and procedure which will bring him to the standard determined by the PO. The CTP, then, became the document to control training content down to the instructor level.

From the wide variety of systems and equipments that this highly mechanized force must maintain, it was necessary to choose representative ones on which the tradesman could be taught performance requirements, or on which measure of performance could be checked. This served to streamline course content and reduce training time. This means that, generally speaking, at level 3, the tradesman is taught to operate, service, remove, and replace components, and make the running adjustments necessary to keep the equipment in operating order. At this point he is trained to job entry level and is, in fact, an apprentice. Of necessity, the degree of supervision must be high. Not only that, his supervisor must ensure he receives guidance on the equipment with which he has had no experience. Following the On-Job-Training Schedule, he then progresses to level 4. Theoretical knowledge is limited but, at this point, he is a fairly competent and versatile tradesman, who can accomplish the great majority of permissive repairs up to field level and, with minimum supervision, he should be able to carry his load as a serviceman under field conditions.

At level 5, in keeping with the progression profile, he reaches journeyman status and is promoted to the rank of corporal. The training then prepares him to carry out all but the most complex or seldom-required repairs. By increasing the knowledge content of his training, he is prepared to inspect and to make repair decisions by relating his observations to the standards set out by the manufacturer, to organize work for small groups, and to supervise tradesmen in trade duties or under field conditions. He is now committed to a service career and hopefully to higher levels of trade and leadership.

At of this writing, the documentation for levels QL6A and QL6B are in the preparation stage. Future articles will outline the preparation of these and reveal more of the detail of the training plans (CTP's) for specific mechanical trades. [RCEME Technical Bulletin, Volume 15, No. 1, March 1970]

Formation of CFSAOE in CFB Borden, 1970

The foregoing article gives some idea of the increasing formality of the new system. Change continued, and on 1 June 1970, the LORE portion of CFSCLOE in Kingston was moved to CFB Borden and amalgamated with the Canadian Forces Aircraft Trades School to form the Canadian Forces School of Aerospace and Ordnance Engineering (CFSAOE). The physical move took more than a year, because of accommodation and equipment problems.

The Rationalization of the LORE Trades Study, 1970s

During the early 1970s, a major study was carried out, entitled "The Rationalization of the Trades Supporting the Ordnance Engineering System”. It examined the scope and problems of the existing trades, and reviewed the LORE system requirements for those trades. The main effort was directed toward resolving the problems of the ELM trade, although the other trades were fully considered. However, since the ELM trade had the most interactions with the other two trades, it was mandatory that it be the first trade analyzed in depth. Productivity, workload, future equipment, trade duties, and training were all considered. [Land Technical Bulletin No. 3, 1977]

On 24 June 1977, the first two female Weapons Technician (Land) graduated at CFSAOE. {LORE Technical Bulletin, No. 4 1977] The author remembers the first two female Vehicle Technicians arriving in Gagetown about 1976.

TQ3 Common LORE Training, 1980

In February 1979, CFSAOE carried out a study of the proposed new trade specifications for the LORE Branch. It was found that most of the non-technical tasks were common to all LORE trades. A concurrent study reviewed the common LORE training requirements. These studies clearly showed that LORE trades training had met the standards for purely technical requirements, but had failed to prepare the trainees properly for the full range of employment that they would encounter. They also identified a serious shortcoming in introducing the students to the history of the Branch, resulting in poor esprit-de-corps and lack of interest in the Branch identity.

These problems were given a high priority within CFSAOE. and LORE Company was tasked to address them. The project reviewed the General Specifications for Other Ranks (GSOR), the current and proposed LORE trade specifications, and the TQ3 Course Training Plans (CTPs). A service paper was prepared that identified the gaps between the TQ2 and TQ3 specifications that were not filled by the trades courses. The paper, which was staffed on 30 April 1980, recommended that this gap be filled by a LORE Common Training module.

The first attempt at developing the TQ3 Common training module established that 21 training days would be required to meet the criteria defined by LORE Company. Since existing trade courses could not be lengthened to this extent, this was not acceptable. After several attempts, the time was reduced to ten training days. This was achieved by using four and one-half days of evening work out of the base training development programme, four and one-half days of evening training while in the field, and two full weekend days. This permitted the Common LORE training to be accomplished by extending the Vehicle Technician TQ3 course by four days, the Weapons Technician (Land) TQ3 course by four days, and the Fire Control Technician TQ3 course by 2.8 days. The commandant of CFSAOE approved the proposed training and authorized LORE Company to run a pilot course in the fall of 1980. The pilot course was so successful that the Commandant of the Canadian Forces Training System subsequently supported the plan and the training continued.

The course had eight 3-hour evening classes covering basic radio-telephone procedures, compass using, and map reading skills. The trainees spent three days in the classroom at LORE Company, learning LORE history, the Canadian Forces Training System and OJT, field sanitation, nuclear, chemical and biological warfare, and the theory required for the maintenance and use of personal kit. This was followed by theoretical and practical training in field skills that was carried out in the CFB Borden training area. In the field, they established a base camp where they lived and trained for eight days. Setting up the camp was training in itself, as the trainees learned to live under canvas as well as the operation and maintenance of all the related field equipment, such as stoves, lanterns, heaters, tents, and generators.

Fieldcraft training included individual camouflage and movement, sentry duties, personal trenches, pyrotechnics, trailer backing, blackout driving, throwing hand grenades, weapons qualification with the FNC1 rifle, FNC2 automatic rifle, and the sub-machine gun, and familiarization with the general purpose machine gun. Some basic section level drills, such as defence, fire orders, target locating, engaging, vehicle deployment and camouflage, individual ration packs, and section feeding were also covered. The field training culminated with a 28-hour non-stop tactical exercise, during which the course deployed as the first line maintenance platoon of an infantry battalion.

By the end of December 1981, more than 400 trainees had taken the course and the current rate of about one course per month was expected to continue. Each course normally consisted of approximately 30 students; two Vehicle Technician serials and one serial of either Fire Control Technicians or Weapons Technicians (Land). [LORE Technical Bulletin No. 2, 1982]

LORE Becomes LEME, 1984

In 1982 the Branch Advisor, Brigadier-General J.G.R. Doucet, had the Colonel Commandant, Brigadier-General A. Mendelsohn, ask the Chief of the Defence Staff, General R. Withers, if there was any problem in having once again the words "Electrical and Mechanical Engineering" in the Branch name. The rationale cited was the difficulty in recruiting because people could not relate to Land Ordnance Engineering. General Mendelsohn also asked if the reason for the change from RCEME in 1968 was still valid (i.e. the need for a name that was neither RCEME nor RCAF).

General Withers agreed that time had passed and there was no longer a need for a non-RCEME, non-RCAF name. He also agreed that there was a recruiting problem. At the time, it was considered that there might be a problem if the "Royal Canadian" were to be reinstated. Therefore, in the interest of not delaying the matter, the Branch name was changed to the Land Electrical and Mechanical Engineering (LEME) Branch.

The official name change occurred at the EME 40th Anniversary parade at the CFSAOE on 15 May 1984. Major-General J.A. Fox, Chief of Personnel Development at NDHQ, Colonel G.W. Bruce, the Colonel Commandant, and Brigadier-General Doucet signed the official scroll. [Canada's Craftsmen at 50!]

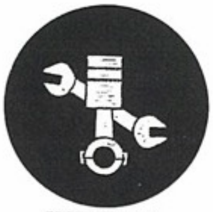
Formation of CFSEME, 1985

On 1 September 1985, the Canadian Forces School of Aerospace and Ordnance Engineering was split, and the Canadian Forces School of Electrical and Mechanical Engineering (CFSEME) was formed. LEME finally had its own school. The school was organized into four companies: Headquarters and Standards, Regimental, Artisan, and Vehicle. The EME Journal, No. 1, 1987 was dedicated to the new school.

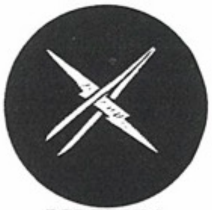
New LEME Occupation Badges, 1986

In 1986, after almost a year of discussion at Trade Advisory Committees and other development work, designs for the new LEME occupation badges were announced. The badges had been developed by the technicians of the trades, some after many attempts to agree on a design that could be reproduced in cloth. The Vehicle Technician and Weapon Technician badges were basically the same design that was worn up to the mid-1960s. The two other badges were new designs:

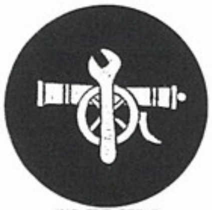
> Vehicle Technician - an internal combustion engine piston superimposed on a wrench;
>
> Fire Control Systems Technician - a lightning bolt indicating electricity with tweezers indicating precision work;
>
> Weapons Technician (Land) - a gun wrench superimposed over a cannon; and
>
> Materials Technician - a welding torch superimposed over a machinist's wrench. [EME Journal No. 1, 1986]



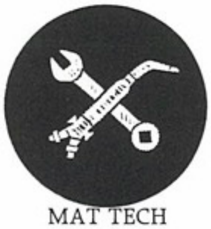
VEH TECH
TEC V
411



FCS TECH L
TSCT(T)
430



W TECH L
TEC A(T)
421



MAT TECH
TEC MAT
441

LEME QL7 Course, 1989

By 1989, successful completion of the QL7 Course was a prerequisite for promotion to master warrant officer. The 35-day course provided LEME warrant officers with the knowledge and skills required for employment at the rank of master warrant officer and chief warrant officer. CFSAOE planned to have two courses of 20 students per year, which would ensure the system had enough warrant officers qualified for promotion. [EME Journal No. 1, 1989]

CFSEME Francotrain Efforts, 1989

In 1989, LCol R.D. Herbert published an update to the French language LEME training.

> As any Francophone technician or officer in our Branch could tell you, technical training in the French language was almost non-existent until recently. In fact the only training conducted in French was the QL3 Vehicle course taught at St Jean and the QL5 Vehicle course taught at CFSEME. Conditions are improving.
>
> Starting last year, CFSEME conducted its first French serials in both the Weapons Technician (Land) and Fire Control Systems Technician occupations at the QL3 level. In addition, one serial of LEME Officer Phase II was conducted entirely in French. This was the first time training has been made available for Francophone LEME Officers in their mother tongue. Vehicle Company also continued to show the way by introducing the new QL6A course in French. Progress was definitely made in 1988.
>
> In 1989 CFSEME intends to continue its pursuit of providing additional courses to students in their primary language. The intention this year is to introduce QL3 training in both the Ammunition Technician and Materials Technician occupations. This will complete the initial introduction of French language courses in all trades taught at CFSEME. Officer training in French will continue to expand with the Vehicle package of Phase III being taught entirely in French as well as a number of POs in Phase IV.
>
> Future plans call for the introduction of French courses at the QL5 level approximately two years from now to meet the requirement of this year's QL3 graduates. Occupation Specialty Qualifications have a much lower priority, but will be introduced when resources permit.
>
> Francotrain is resource intensive. The School never has enough bilingual instructors to meet its needs. French reference material is difficult to obtain and lexicons are usually nonexistent. The translation of course training plans, lesson plans, handouts, and question banks is a very slow and difficult process, but it continues. Despite all of these impediments, progress will continue to be made. [EME Journal No. 2, 1989]

New QL6A Training, 1989

In 1989, Capt G.R.C. Emmerson wrote a detailed description of the QL6A training.

> Before the Occupational Analysis, published in 1983, gave new direction to our training, the QL6A training had been a more advanced version of the OJT 4, and of equally dubious value. Depending on the limitations of the workshop and who signed it off, it may or may not have been worth the paper it was written on. Secondly, there was no in-house training between QL5 (brand new corporal) and QL6B (long in the tooth warrant officer). This wide gap completely ignored the first two levels of supervision (master corporals and sergeants), and the fact that they were the senior hands-on technicians. Under the new plan, the old QL6B course would disappear and be replaced by new QL6A and QL7 courses. Both would be in-house career courses. QL6A would be the last level of hands-on technical training, with an emphasis on trouble shooting and the ability to supervise junior

technicians. It was to be taken at the master corporal level and be a prerequisite for promotion to sergeant.

Well, all that was a few years ago now. Since then, all the new courses have been written and we are in the midst of implementation and adjustment training. As each occupation had different considerations and problems, the best thing is todeal with each occupation separately.

Vehicle Technician 411. The course training plan (CTP) for the new QL6A course was approved in March 1988, with the first course being run a month later. There was no gradual phasing in or out of training. QL6B training ceased with the introduction of the first QL6A course. However, the new QL6A was also to be loaded with sergeants who had not qualified QL6B. After they have all been through, the course will be strictly for master corporals. This constitutes the only form of adjustment training for the Vehicle Technicians. The new course has 55 working days, which includes 15 for Common LEME training.

Weapons Technician (Land) 421. The last QL6B course was run in June 1988 and the first of the new QL6A courses started on 13 March 1989. The adjustment training for Weapons Technicians (Land) is not as straightforward as it was for the Vehicle Technicians. Anyone qualified QL6B will not be required to do the new QL6A but will, of course, have to do the new QL7. Those master corporals who did not have their OJT QL6A signed off before 31 December 1988, will have to attend the new QL6A course, which is 62 working days long, including the 15 days Common LEME. These are the two easy ones at either end of the scale. It is the sergeants and master corporals who do have the old OJT QL6A qualification who will need adjustment training. Even though they have already passed their QL6A course, which qualifies them for promotion up to and including WO, they must take the QL6A adjustment course and pass, or the merit boards will not look favourably on their careers. Just to rub salt into the wound, the adjustment course is likely to be 67 working days long, so that it can include hydraulics training that they would not have received on the old QL3 and QL5 courses. The work “likely” is used because, at this point, the adjustment course is not approved and scheduled into the training plan.

Fire Control Systems Technicians. Implementation of the new QL6A and adjustment training for Fire Control Systems Technicians is quite straightforward as there were already QL6A courses being run at CFSEME for MOCs 432 and 433. There was very little change needed to bring them up to new training requirements. The CTS Adjustment Board that sat at Training Systems Headquarters in November 1987 recommended that there need not be any adjustment training because the difference between the old and new courses was minimal. It should be noted, however, that official sanction of this plan has not been received at the time this is being written. Both new QL6A courses have been running since the fall of 1987, but the 432 QL6A is shorter than the planned length because some training aids are not yet available. When the course is running at its full length, it will be 88 working days long. The 433 QL6A is 79 days. As with the other occupations, these two courses include 15 Common LEME days. The last two QL6B courses are scheduled to be run in 1989.

Neither the Materials Technicians 441 nor the Ammunition Technician 921 were part of the new training implementation. However, they are both worthy of note.

> The Materials Technician occupation is new anyway, so there was no QL6B to be dropped. The QL6A (47 working days) started in the spring of 1987 and to date four courses have been run. In addition, two adjustment courses were run in 1986 for senior NCOs who had QL6B in their old 500 trades. In 1985 and 1986, three conversion courses were run, basically for master corporals who had qualified QL6A in their old 500 trades and needed to convert to 441 QL6A. All conversion or adjustment training for the 441 MOC (including QL5 for the old 500 trades) has finished now.
>
> Ammunition Technician 921. As we all know, this is not a LEME occupation, but it is most certainly a CFSEME responsibility and an integral part of the School. The Ammunition Technicians introduced a new QL6A in 1980. Prior to this, the QL6A had been the final course, which left a lot to be desired at the higher ranks. So, a QL6B was introduced, and the QL6A became a correspondence course to fill the gap between the QL5 and QL6B. As with our LEME occupations, this QL6A is a prerequisite to promotion to sergeant. Each year, at the same time, a course package is sent out to preselected master corporals, who then have six months to complete all assignments and submit their work to CFSEME Standards for marking. Course reports are sent to the career manager and unit commanding officers. The course is quite challenging and ensures the student is fully up to date and able to take over a responsible position as a new sergeant. [EME Journal No. 2, 1989]

Trades Training at CFSEME, 1990

In 1990, LCol L.L. Hellemans described the status of the trades training at CFSEME.

With the start of a new decade, it's an appropriate time to look back at the accomplishments of the last ten years. We started the 1980's with an Occupational Analysis, which led to the present trade structure of Vehicle Technician, Weapons Technician (Land), Fire Control Systems Technician, and Materials Technician. Lengthy and detailed staff work followed and resulted, in 1987, in a plan for the implementation of the required training. This plan contained the key statement that no new training was to be implemented until all the resources (manpower, facilities, training aids, etc) were in place. For this reason, it was decided to implement all new courses one Performance Objective (PO) or Enabling Objective (EO) at a time. Let's now look at where we stand at the end of this decade (i.e. December 1989).

Course	POs Implemented (Where a PO is not implemented yet, generally the old PO is in use.)	Remarks
Vehicle Technician		
QL 3	30 of 33	Remaining three PO's are either partly implemented or are waiting for facilities (2) or training aids.

Course	POs Implemented (Where a PO is not implemented yet, generally the old PO is in use.)	Remarks
QL 5	17 of 21	Remaining four POs are partly implemented and waiting for facilities or training aids.
QL 6	All	Will be monitored by Standards this year. (1990)
Weapons Technician (Land)		
QL 3	20 of 31	Remaining eleven are being rewritten and will be incorporated by Summer 1990.
QL 5	3 of 23	Course will be implemented by January 1991 as only re-writes are required of remaining PO's.
QL 6	0 of 9	Course will be implemented by Summer 1990 as only re-writes are required.
Fire Control Systems Technician		
QL 3	31 of 33	Remaining two are being considered for deletion (Maintain Meters and Gauges; Explain the Theory of Operation of Welding Equipment).
QL 5 (432)	6 of 14	Of the remaining eight, six are waiting for equipment and the last two will be included when the XG and XH courses are deleted (1994?)
QL 6 (432)	7 of 9	The remaining two are scheduled for implementation in 1990, on arrival of the training aids.
QL 5 (433)	15 of 16	The last one is expected to be in place in late 1990, on availability of equipment and facilities.
QL 6	All	
Materials Systems Technician		
QL 3	All	A minor adjustment is being proposed for these two courses
QL 5	All	
QL 6	All	

LEME Common Training

QL 3. The QL3 Common Training has been implemented. For the future we are hoping to incorporate Driving Training, which is still given separately at CFSAL.

QL 5. The 1989 OSER approved the staff to expand the course to ten days, but provided no offsets. Until these are available, few changes will be made to the course.

QL 6. The course is fully implemented.

QL 7. The course is fully implemented.

The Future

We will continue to work at implementing PO's as a first priority, and at evaluating this training, once implemented, as a second priority. Of course, periodically our colleagues in DGLEM throw our schedule off by trying another piece of kit. Good staff work by both NDHQ and the School normally eliminates all of the problems of introduction. In summary, CFSEME confidently looks forward to a productive and busy year, by the end of which most of our new trades training will be in place. [EME Journal No. 1, 1990]

New Cap Badge - The “Return of the Horse”, 1991

In 1991, the LORE cap badge was change to a modern bilingual version of the RCEME badge. Re-badging ceremonies took place in every unit and location. A special edition of the EME Journal was dedicated to the event. [EME Journal, Special Issue, 1991]

Occupational Analysis, 1995-96

In 1995-96, an occupational analysis was undertaken on the 400 series occupations. The process is described in the EME Journal, No. 1, 1998.

LEME Returns to the Army 1999-2007

In 1985, by the Mulroney government returned the Canadian Armed Forces to Distinctive Environmental Uniforms (DEU) for the Army, Navy and Air Force. The EME Senate opted to put the LEME Branch in the Army uniform. [from BGen Peter Holt]

In 1999, the EME Senate committed the LEME Branch to become an Army Branch. [EME Journal, No. 1, 1999]

EME career management became part of the army DMILC [???] in July 1998. As of 1 January 1999, all EME junior NCOs had to take the land forces junior NCO course before they could be promoted to substantive master corporal. [EME Journal, No. 2, 1999]

The Managing Authority [????] was transferred from ADM HR/MIL to the Army (less IT&E) on 17 July 2000. [from a slide in the Chief of the Land Staff’s briefing to Bluebell 2002]

Lieutenant General M. Jeffery, Commander of the Army, introduced the EME Journal, No. 2, 2000. [implies RCEME was a part of the Army?]

Communique 2003/3 noted that the Army was the managing authority for EME. [EME Branch Advisor’s Communique No. 03/2003 Army Succession Plan]

The EME Journal, No. 1, 2008 announced that the LEME Branch had re-joined the army.

> "This is an historic day" and with those words Colonel Mike Jorgensen, Commander of the Combat Training Center in CFB Gagetown, along with Colonel Stew Moore, the Commander of the Canadian Forces Support Training Group, signed the documents to formally recognize the transfer of command authority for Canadian Forces School of Electrical and Mechanical Engineering from the Commander, Canadian Forces Support Training Group, to the Commander, Combat Training Centre, effective April 1st, 2007.
>
> The EME Branch has long lobbied to become part of the Army and this transformation will take place as of 1 April 2007, with the ceremonial documents being signed at Regimental Company of the Canadian Forces School of Electrical and Mechanical Engineering (CFSEME) on 23 March 2007. After the signing, the staff and students of CFSEME were treated to a town hall information session with Colonel Mike Jorgensen and Colonel Stew Moore.
>
> At the session, the two colonels praised the work that had been done officially making CFSEME one of the Army's schools and reassured those in attendance that the hard work done up to the present time had been of the highest caliber and the change from Training Command to the Army was not due to any shortcomings but in fact quite the opposite.
>
> When asked what the Army will bring to CFSEME, Colonel Jorgensen said "The Army would really like to have a more direct impact on the training of EME Soldiers. The Army will want to put a more operational bite, if you will, onto the training."
>
> Colonel Jorgensen pointed out that the direct impact on the individual soldiers would be negligible, but equipment shortages, such as C7 rifles with the optical scopes and tactical vests for the soldiers, were high priorities to ensure training at the school reflected what the soldiers on operations are using.
>
> Lieutenant-Colonel C.A. Moore, Commandant of CFSEME was very optimistic about the transfer of command. When asked if the long standing rumour of CFSEME moving to Gagetown was in the works because of the transfer of command, he had this to say, "Given the facilities that we have here, we're in an ideal location for right now". He also stated that, "Being separated from Gagetown doesn't harm us in any way. We can still work together with the Combat Training Center." [EME Journal No. 1, 2008]

More Trades and Training Articles

Starting in 2010, each issue of the EME journal included articles on the LEME occupations.

Return of the Canadian Army, 2011

In August 2011, Land Force Command reverted to the pre-1968 title of the "Canadian Army".

The Return of RCEME, 2013

During his presentation to the Canadian Club of Toronto on 19 April 2013, the Minister of National Defence announced the change of name for the LEME Branch to “The Corps of Royal Canadian Electrical and Mechanical Engineers” (“le Corps du génie électrique et mécanique royal canadien” in French). As of that day, the Corps stopped using the term “The LEME Branch” for any common, non-legally-binding use. [RCEME Journal, Issue 1, 2013]

It had taken almost 40 years, but RCEME had finally recovered its name, cap badge, and was, again, part of the Canadian Army.

The Vehicle Technician 411 Trade

In November 1965, the Director of Electrical and Mechanical Engineering (DEME) assumed responsibility for the provision of maintenance support for RCN motor transport. In September 1966, the RCAF Mobile Support Equipment (MSE) sections adopted RCEME procedures and documentation for vehicle maintenance. The maintenance activities of the MSE sections were reorganized into a Base Maintenance (Land) section (BML). At geographic locations where army and air force units were integrated into bases on 1 April 1966, the RCASC transport companies and RCEME workshops were fully combined within the new sections.

On Unification, the Vehicle Mechanic (Tracked) and Vehicle Mechanic (Wheeled) were combined into a single trade - the Vehicle Technician 411 trade (411 being the new Military Occupation Code). In addition, some of the Body Repairmen and Welders transferred to the new trade. The RCAF MSE mechanics transferred to the 411 trade. Vehicle technicians were trained to repair the new equipment. Some equipment, such as tanks, which were limited to specific units and locations, became a specialty within the trade.

Vehicle Technician Occupation Advisor Update, 1989

In 1989, LCol R.P. Britt, the Vehicle Technician Occupation Advisor, wrote an update on the status of the trade.

> The year 1988 was another excellent year for promotions for Vehicle Technicians. At the time of writing, there have been 11 promotions to CWO, 26 promotions to MWO, 39 promotions to WO, 59 promotions to sergeant, and 91 promotions to master corporal.
>
> On 8 and 9 November 1988, a meeting of the Vehicle Technician Occupation Advisory Working Group was held at LETE. Participants included representation from the Commands, the Canadian Forces Training System, the Canadian Forces School of Electrical and Mechanical Engineering, 202 Workshop Depot, and available CWO's from the Ottawa area. Here is a summary of some of the major items that were discussed.
>
> Trades Badges. Trades badges have been approved for privates to sergeants (inclusive) and should be in the supply system by spring 1989.
>
> QL6A Training. Whereas the QL6A qualification used to be by on-job-training (OJT) and the QL6B qualification was by formal course, the situation has now been reversed to provide the necessary technical training earlier in one's career. To ensure that no one misses the formal training at either the QL6A or QL6B levels, those qualified QL6A by OJT will have to take an adjustment course, while those not yet qualified to QL6A level will have to take a formal QL6A course. Those who have already had a QL6B course are in the clear - they have been trained!
>
> QL7 Training. This training is by formal course at CFSEME and is a pre-requisite for promotion to master warrant officer. Currently, there are two courses being conducted per year and 24 personnel will be qualified.

> Language Training. The sure way to enhance one’s career is to get tested and to get a course in one’s second language. Language training is a very important aspect of our Canadian Forces careers and the wise will take note.
>
> Tool Boxes. Approval has been given to purchase a heavy duty drawer type tool box for military vehicle technicians. This box will house the SAE tools. Approval has also been given to purchase a three drawer companion which stacks under the SAE box and will house the metric tools. The two boxes will be secured together by quick release snaps and can be utilized as one unit or separated for ease of lifting. For garrison use, field units will be authorized to draw a roll-away cabinet for carrying and moving boxes during shop repairs. Boxes and companion units will be available for issue in fiscal year 88/89 and units will be notified of the NATO Stock Number and availability when depot stock has arrived.
>
> Metric Tools. A major purchase of metric tools is presently being made. Eventually, all technicians will have a complete set of metric tools.
>
> Automotive Test Equipment. Auto-Sense is pretty well gone from the CF. Plans have been made to purchase three different sets of test equipment under the “Buy and Try" programme in FY 89/90. These units will undergo trials in 2 Service Battalion, Petawawa, and in CFB Ottawa. Based on these trials, a specification will be written and this will be used as the basis for procurement of suitable (and modern) automotive test equipment.
>
> Performance Oriented Electronics Training (POET). This will likely be introduced in 1989 as part of a vehicle technician's training. With all the electronics in modern vehicles, the LEME Branch is doing its best to keep up with technology and POET is a move in the right direction. [EME Journal No. No. 1,1989]

Vehicle Technician Occupation Adviser Update, 1990

In 1989, Major J.G. Dube, the Vehicle Technician Occupation Advisor, wrote an update on the status of the trade.

> The Vehicle Technician Occupation Adviser's function is a secondary duty for DSVEM 2 [the second section of the Director of Support Vehicle Engineering and Maintenance in the Director General of Land Engineering and Maintenance]. The year 1989 has been another excellent year for promotions in the Vehicle Technician trade: 10 promotions to CWO, 27 promotions to MWO, 48 promotions to WO, 87 promotions to sergeant and 113 promotions to master corporal.
>
> This year, the Vehicle Technician Occupational Advisory Working Group annual meeting was held at LETE on 7 and 8 November 1989. Discussions are summarized as follows
>
> Trades Badges. Trades badges have been approved for wear and should be available sometime in 1990.
>
> Metal Shoulder Titles. These have been approved and should be available by end of 1990.
>
> New QL6A Training. The old QL6B course was introduced to confirm and ensure technical competence of senior NCO’s being promoted to WO, whereas the new QL6A course is designed to prepare master corporal vehicle technicians for the technical requirements needed at the senior NCO level. The transition from the old

> to the new course has created a large backlog, which is further complicated by a continuing stream of promotions. To clean up this backlog and to achieve a steady state for the new QL6A course, several options were considered. After a lengthy discussion, a consensus was arrived at whereby the new QL6A training backlog would be eliminated by initiating a new QL6A adjustment course, which will consist of the Common LEME Training package only. The implementation date of this proposed option will be announced later. All WOs and sergeants who do not have the old QL6B or the new QL6A course must take the new QL6A adjustment training course. All master corporals and acting/sergeants will have to pass the new QL6A training, loaded by merit.
>
> QL8 Proposal. As there is no training difference between a CWO and a MWO, there was a consensus concerning the need of a CWO qualifying course. A 6 to 8 day course duration was suggested to meet this requirement.
>
> Performance Oriented Electronics Training (POET). The proposed POET course should be implemented in the 411 and 421 trades about two years from now. The proposed course of approximately 20 weeks duration will be a prerequisite to QL3 Vehicle Technician training.
>
> Tool Box, Field Force Vehicle Technicians. During the year, the current brown box will be replaced by the three drawer companion which is of a heavier gauge metal and will house the metric tools. [EME Journal No. No. 1,1990

Canadian Forces Vehicle Technician Training, Then and Now…

In 2004, Second Lieutenant I. Miedema, 2 General Service Battalion, 2 Field Workshop, Petawawa briefly summarized the history of the trade. While an interesting article, the historical description contained enough minor errors that it has been edited out, and reduced to the contemporary training (that is assumed to be correct).

> … With the integration of the CF in 1968, many things changed: the Apprentice Training Plan was abandoned and the Group Levels disappeared, amalgamated into the Pay Level system. In 1980, the Trade Qualifications (TQ) were introduced, which would later on be replaced by Qualification Levels QL2 through QL7.
>
> Today, when a technician enrols in the CF, the first qualifications are QL2 and QL3. These formal courses are held at the Area Support Unit, St. Jean, and CFB Borden, respectively. The recruit course, QL2, is a ten-week course and is immediately followed by QL3, which is a 30-week trade course consisting of theory, demonstration, and hands-on work assignments. During QL3 training, subjects such as engine overhauls, welding, and technical automotive systems are mastered in both garrison and field operational environments. In contrast to QL2 and QL3, the QL4 qualification is an on-job-training programme held at bases across Canada. After completing QL3, students are posted to a general support battalion or a service battalion to complete a mix of theory and practical training. This training is approximately 24 months in duration, and consists of familiarization with equipment used by the combat arms, combat support, and combat service support units, as well as occasionally employment at a local civilian workshop to gain complementary experience. It is within this broad range of working environments that the essential hands-on experience is gained, using the skills acquired at CFSEME as well as the expertise obtained in the on-job-training programme itself. The next qualification is QL5, the journeyman course, held once

> again in Borden. This trains the EME Craftsmen to a higher level along with developing their leadership ability. [EME Journal No. 2, 2004]

Vehicle Technician Vision Update, 2004

In 2004, MWO J.O.J.M. Laramee and Mr R.A. Hipwell described the plans for improved training in Vehicle Company at CFSEME.

> What's going on at Vehicle Company in CFSEME? Rumour has it that many members are constantly working to improve training provided by the school for Vehicle Technicians. Many training initiatives are being implemented and new ideas are constantly being analyzed.
>
> The rapid advancement in automotive technology has forced all of us to become even more of an expert in the field we chose as a career. Can data, parameter identification displays, logic gates, and multiplexing are all too familiar terms to a Vehicle Technician today. With the introduction of new vehicle fleets such as Light Armoured Vehicles (LAVs), Militarized commercial off-the-shelf (Mil COTS), and the Light Utility Vehicle Wheeled (LUVW), technicians must communicate with on-board computers in order to diagnose and troubleshoot these vehicles. To support our expert tradespersons, CFSEME wants to modify the way all levels of Vehicle Technicians are trained.
>
> In this article, we will briefly describe some of the projects that CFSEME, specifically Vehicle Company, is presently working on. Although a few of these are minor in nature, their importance to the EME Branch will have a great impact for our technicians.
>
> Many members are familiar with the “Way Ahead” vision. The goals outlined in this presentation are continuously in the minds of those personnel involved with the modifications to the 411 trade.
>
> In December 2003, a new qualification standard was developed for the trade. Since April, the Training Plan Working Board has been working daily to build a training plan for all levels of technicians. The Board consisted of many members from various backgrounds within the trade. Six permanent staff, two Reserve subject matter experts (SME), 23 Vehicle Company SMEs and a Regular Force member from Petawawa have all contributed extensively to the development of the training plan.
>
> So far, 266 hours of technical training have been completed, involving 37 Enabling Objectives. Incorporating the Systems Approach to Training (SATT) concept, this training plan will be the most effective that CFSEME has designed in recent years.
>
> The reference material used to develop the training plan is worth mentioning. The number of text references has been greatly reduced. Presently, only three text references are being used to develop the training plan with absolutely no compromise to lesson content. The Automotive Technology 4th Edition, Heavy Duty Truck Systems, and the Medium/Heavy Duty Truck Engines texts include all training material thus far. Two of these books have only been released since the summer of 2004.
>
> New training aids are beginning to find their way into Vehicle Company. In March 2004, a new electrical and supplemental restraint system (SRS) training lab was

received. The electrical lab is in full operation and provides a huge opportunity for students to develop excellent electrical and electronic diagnostic skills. The SRS lab provides training for vehicle air bag systems. The instructor has access to all courseware for this training, including task sheets for students and all reference material for each system.

The electrical lab consists of 28 trainers, allowing for the same number of students to train at any given time. The trainers involve charging, starting, lighting, instrument panels, wiper and horn systems. The trainers are fully operable from battery voltage, and each system is designed as they are in an actual vehicle.

The trainers from both labs are connected to an instructor's computer and allows for communication between the instructor and student. The instructor's management programme (IMP) allows the instructor to organize the class, for example adding a student or transferring a student to another class. The instructor can schedule students or classes and plan with other classes for lab work.

The IMP also gives the instructor the opportunity to insert electrical/electronic faults into the trainer board circuits. These faults are sent to each trainer and students will accept the fault electronically. Each trainer board and student has a keyboard that will allow them to communicate with the instructor electronically. Once the student responds with the correct repair information of their particular fault, the IMP records their answer and provides feedback to the student automatically.

The beginning of a heating, ventilation, and air conditioning (HVAC) lab is also underway. The first unit has arrived and a total of six more are planned. These units provide HVAC training on a portable unit. It also operates exactly as in a vehicle, including electronic control of air conditioning.

Many other labs are planned, including complete operational fuel injection, ignition, automatic braking systems, and diagnostics. All of these labs will ensure training continues with the most advanced systems in our fleet today.

Vehicle Company continually seeks better ways to improve training. Along with this initiative is the implementation of virtual training software. Presently, we have a 2-dimensional package for electrical and electronic systems. This package is designed for Vehicle Technicians at all trade levels. The courseware consists of three stages of training. Beginning at basic electricity and progressing to advanced vehicle computer system electronics, this trainer provides students with an excellent learning environment. The specialized electronics training package allows students to manipulate circuit components on an electronic breadboard. Students must electronically build circuits, and test and perform electrical measurements following step-by-step tasks in the courseware. Designed as a self-paced program, the student will receive training in an instructor-led, E- learning computer classroom. [EME Journal No. 2, 2004]

The Weapons Technician (Land) 421 Trade

On Unification, the Weapons Technician and Master Weapons Technician trades were combined into the LORE Weapons Technician (Land) 421 trade. [RCEME Technical Bulletin, Vol. 11, No. 4, October 1966]

Arguably, the Weapons Technician (Land) trade was the LORE trade that was least affected by Unification. Essentially, the trade continued to repair the same equipment, but with the addition of a few new locations. The trade was, of course, affected by the changes to the pay level system and the training system.

Weapons Technician (Land) Trade Advisor Update, 1985

In 1985, LCol R. Langdon, the Weapons Technician (Land) trade advisor, wrote an update on the trade.

> Currently, four Trade Advisory Committees (TAC - one for each of the LEME trades) have been established at the direction of the Branch Adviser, DGLEM, to assist him in keeping abreast of trade concerns and problems, and to recommend if possible solutions to those concerns. None of the committees has executive authority and cannot, by themselves, effect changes. However, by virtue of their collective voices, each has an important influence on what and how solutions are implemented.
>
> Each TAC consists of a chairman, usually a lieutenant-colonel appointed by the Branch Adviser as a secondary duty, an assistant chairman, always a senior trade representative as selected by the chairman, selected senior trade representatives from each of the commands and major units and, most importantly, the trade career manager. Each committee meets at least once a year to formulate recommendations. However, throughout the year, they always maintain contact to discuss issues as they arise.
>
> As the Weapons Technician (Land) Trade Advisor, I have been concerned that there was no forum in which to relay information concerning the trade to the field. Moreover, I recognized the need for a medium in which you, as technicians and artificers, could forward your concerns about the trade to NDHQ and/or Command Headquarters.
>
> Therefore, I welcome the inauguration of “The Trade Advisers’ Corner” in the EME Journal, and I strongly solicit your support to help make this information transfer medium work. In particular, I ask that you, as professionals concerned about trade development, equipment problems, overall morale, or any other subject affecting the trade, take the time to express those concerns to the Editor. The Editor will ensure that those concerns get passed to the responsible person and that you get an answer. Furthermore, those letters and answers which affect the overall trade will be published in the “Trade Advisers’ Corner” as information for all.
>
> Since approximately January 1984, as DLAEEM 2 [second section in the Director of Land Armaments and Electronics Engineering and Maintenance in the Director General of Land Engineers and Maintenance], I have had the pleasure to serve as the Weapons Technician (Land) TAC chairman, and have as my able assistant CWO Mike Stevens, DLAEEM 2-2-2, and a recent appointee to the Order of Military Merit. My committee members by virtue of postings, releases, etc., have changed

> several times since January 1984. However, They have always been concerned and responsible MWOs and CWOs from across the broad spectrum of the trade. We have had two formal meetings, one in January 1984 to discuss issues from the LORE Occupational Analysis, and one in January 1985 to discuss overall trade concerns. Further, we've had major representation on the Weapons Technician (Land) Trade Specification Review Board in February/March 1984, and will have similar representation on the Course Training Standard Board (CTS Board) when it sits in April 1985 to translate trade specifications into training objectives and standards. In addition, as chairman, I had a formal opportunity in March 1985 to meet with the branch adviser and his senior representatives to discuss particular trade concerns and recommendations.
>
> Now to the meat of our concerns and recommendations. Training-wise, as with other trades, we are making TQ6A the highest level technical trade course commonly available to all technicians. As such, much of the technical content of the QL6B course will be inserted into the TQ6A course, increasing the latter's overall scope. Inherent in this scope and throughout all levels, Weapons Technician (Land) trade courses have increased emphasis on weapons, ammunition, and hydraulic theory, with an introduction to electrical and electronic theory. We've given up the mobile laundry bath unit and water purification unit repair responsibilities to the vehicle trade, but will retain and improve training on life preservers, safe and security containers, and field stoves and lanterns. Trade Specialty Qualifications (TSQ) on the 40-mm Boffin anti-aircraft gun, Leopard tank, M109 Howitzer, and security containers and locking devices will be retained, but the Armoured Vehicle General purpose TSQ has been deleted in favour of introducing this into general trades training. Because of the increased theoretical content of all courses, trade entrance requirements have been elevated to a minimum academic equivalent of Ontario grade 10 level math and physics.
>
> Major trade concerns discussed included LOMMIS reporting, the need for increased Francophone training, and the suitability of females in the Weapons Technician (Land) trade. Promotion quotas and forecasts, problems with LPU maintenance, and Weapons Technician (Air) and Weapons Technician (Land) trade offs are all subjects that I hope to address in future articles. We also discussed the need for a Weapons Technician (Land) trade badge, which I am happy to say has received strong support from the branch adviser.
>
> In this regard, recommendations will be made to the Clothing and Dress Committee to have trade badges for all LEME trades as follows: one badge only for each trade (ie no demarcation for various trade levels), service green background with gold and possibly silver symbol design, and to be worn on lower right sleeve of CF and work dress (none on combat clothing). While it may take some time to receive approval for LEME trade badges, it's an important issue on which we are moving, and moving in the right direction. [EME Journal No. 1, 1985]

Weapons Technician (Land) Occupation Advisor Update, 1989

In 1985, LCol W.S. Tait, the Weapons Technician (Land) Occupation Advisor, wrote an update on the trade. Note the change in title from trade to occupation advisor.

> The Weapons Technician trade is indeed healthy with respect to both the quality and quantity of the people in the occupation. As a member of the last non-

commissioned member (NCM) merit board, I can assure you that there is no shortage of excellent technicians and NCOs in the 421 trade. And, as of January 1989, there is no shortage of Weapons Technicians at all. In fact, the trade presently has a strength of eight technicians over our requirement. This is largely due to the efforts of CFSEME. In June 1987, the School successfully instituted a "Get Well" programme to address the problem of a shortage of technicians in the 421 trade. It is unlikely that CFSEME will get much relief in workload in the near future, however, as it is expected that the trade will continue to grow at a similar rate to the last few years, which increased in our technician requirement by about twelve per year.

Some of the new positions which have been filled by Weapons Technicians recently include several Low Level Air Defence positions, the ETSM of 4 Air Defence Workshop in Lahr, a new job in the Director of Documentation and Drawing Services in NDHQ, and the first ever Weapons Technician (Land) in Goose Bay Labrador. In 1989/90, Weapons Technicians will be filling new positions in St. John's, Nfld, Shearwater, NS, and Project Management Office Tank in Ottawa, as well as a new CWO slot in DLAEEM 2 in NDHQ.

There have been some significant changes in the training of Weapons Technicians. First of all, in recognition of the expanding technology requirement, Performance Oriented Electronic Training (POET) training for the Weapons Technician (Land) trade has been approved. However, with the reorganization of POET block training, it has been determined that block 1 no longer meets our requirements. A steering committee has been formed to identify the needs of all EME trades for POET training. Upon completion of this study, POET training will commence for Weapons Technicians and Vehicle Technicians. It is expected that the training will take place at CFSEME.

The last Weapons Technician (Land) QL6B course was completed in June 1988. Henceforth, the highest technical qualification for the trade will be achieved through attendance on a QL6A course. The first course for Weapons Technicians is scheduled to start on 13 March 1989. The course will be compulsory for all those who are not currently qualified QL6A through on-job-training. For those who are already QL6A qualified, an adjustment course will have to be taken to ensure that a consistent qualification standard is achieved.

Once all of the technical training is out of the way, the only hurdle to the upper echelons in the trade, aside from excellent on-job performance, is to qualify on the QL7 course. To date, three of these courses (which are common to all EME trades) have been run. Although the course is demanding, it is highly recommended that all our technicians strive to be selected for it.

In closing the section on training matters, for those of you who are feeling a lack of excitement in your employment, the Weapons Technician (Land) trade is now one of the occupations eligible for EOD training.

Equipment introduced during the past year includes the C6 General Purpose Machine Gun (which replaced all the ground mounted C5 GPMGs), the sustained fire kit (SFK) for use by the infantry with the C6 GPMG, a blank firing attachment for the M2HB .50-calibre heavy machine gun, a sub-caliber device for the M72 Light Anti-tank Weapon, and of course the ongoing issue of the Small Arms

Replacement Project weapons [the C7 Rifle, C8 Carbine, and C9 Light Machine Gun].

The C3 7.62-mm sniper rifle is undergoing a midlife refurbishment, which includes an improved barrel, receiver, and sighting accessories. This project is expected to be completed before the end of 1989.

Current inventories of the M109 Howitzers and the L5 Pack Howitzers are scheduled for rebuild. Sixteen L5s will be rebuilt this year at Oto Melara in Italy. The remainder are scheduled for the early nineties. The M109 fleet is scheduled to commence repair and overhaul in 1991/92 with the Canadian-based howitzers being completed at 202 Workshop Depot.

A trial is presently underway at LETE, testing several 9-mm pistols, one of which will be a replacement for the Browning .32-calibre pistol, which is no longer manufactured. The new pistol will be used by general officers, pilots, and members of special investigation units. The Browning 9-mm No. 2 Mk 1* will remain in service as the primary pistol for general service use.

A cadet small-bore rifle is in the early stages of development. This rifle will be a .22-calibre version of the C7 rifle.

Finally, some possible long range projects include the replacement of all vehicle-mounted machine guns with a 7.62-mm chain gun, up-gunning of the 105-mm and 155-mm towed howitzers, replacement of the L5 pack howitzer and procurement of additional M109s and the Multiple Launch Rocket System (MLRS).

Although the Weapons Technician trade is considered healthy, there is a great deal of concern in the trade concerning the increasing burden that is being forced on our technicians through expanding technologies. This concern has been expressed by the senior technicians in the trade during the last two Exercise Bluebell 421 Working Groups. It was the collective opinion of these groups that, due to the introduction of new equipment and technologies, our technicians were finding it increasingly difficult to be proficient in all aspects of the trade and that, as a result, our service to our customers in the Army was being gradually degraded. The working groups further generally agreed that the solution to this problem was to split the trade into two occupations along the lines of a large caliber/turret systems technician (Gun Mechanic?) and a small caliber technician (Armourer?). Many steps must be taken before implementing such a major occupational change, not least of which is ensuring that the resulting two occupations are viable, offer reasonable career advancement, and meet the needs of the Canadian Forces. The decision to split, if found to be feasible, will not be an overnight task. Many implications will have to be studied and of course approval must be obtained. Suffice it to say that the 1990s are going to be very challenging for the Weapons Technician (Land). [EME Journal No. 2, 1989]

Weapons Technician Specialty Training, M109 Howitzer, 2004

In 2004, WO S.L. Hansen, at the Artillery School at the Combat Training Centre in CFB Gagetown, wrote an article on the Weapons Technician (Land) M109A4 Maintenance Course Serial 0301. As noted previously, equipment that was not in common use had long been a specialty within the trades.

The M109A4 is a fully tracked fighting vehicle that provides close-in artillery fire support. It began life in 1952 when concept studies were conducted in the United States to develop a new family of self-propelled guns to replace their M44A1. The result of this development was the 155-mm T196E1 that had a limited production run in 1961. In December 1963, this gun was redesignated as the M109 Howitzer. In 1968, the M109 entered service in the Canadian Armed Forces with 1 RCHA in Germany. Beginning with the “long-tube” upgrade in 1977, the M109 has undergone many modifications and improvements, and is presently designated as the M109A4.

The M109A4 Weapons Technician (Land) Maintenance course is designed to train personnel to support the Ml09A4 Self-Propelled Howitzer both in the field and in garrison. The course is comprised of 32 training days, during which personnel are trained to carry out advanced repairs, use specialized hydraulic, mechanical, and electrical equipment in diagnosing faults, and use other equipment that is affiliated with the maintenance and operation of the M109A4.

In 2002, a service level agreement was drawn up between Canadian Forces Support Training Group and the Combat Training Centre, Gagetown, to have the training of this occupational specialty qualification transferred to Maintenance Training Battery of the Royal Canadian Artillery School.

The first M109A4 Weapons Technician (Land) Maintenance course to be conducted at Maintenance Training Battery commenced on 6 October 2003 with six students. All of the students were from units that use the Ml09A4, or provide maintenance support in one form or another to the artillery regiments.

Week one of the course included driver training. For part of the course, markers and pylons were laid out to simulate vehicle maintenance bays. An important observation for some of the students is reaction time, distance to the simulated wall, the ground guide's reaction time, hand signals, and then the crushed markers.

Whether in garrison or on the gun line, a Weapons Technician (Land)'s timely and effective diagnosis and repair depends on their ability to troubleshoot effectively. This ability was addressed on the course by providing electrical and hydraulic theory lectures, including an explanation of the schematics of the M109A4 electrical and hydraulic systems. With the use of multimeters, schematics, and appropriate references, the students were then given practical troubleshooting scenarios. The students were assessed on their systematic approach to identifying the causes of faults that were intentionally placed on the gun by the instructors.

Other components of the course included inspecting, servicing, repairing, and testing of the hydraulic system and its components, the main armament, the cap and its auxiliary components, and the sighting and fire control equipment including the bore sight.

Towards the end of week six, the students, with the assistance of the Battery's vehicle instructors operating the M578 recovery vehicle, performed a cab lift of the M109A4. The removal of the cab from the vehicle proved very interesting to all students as none of the students had ever seen, let alone personally performed this maintenance procedure.

The last week of the course included a visit from the M109A4 Life Cycle Manger, who provided much insight into the inspection and repair procedures for the improvements that have recently gone into the M109A4. Unit Weapons Technician (Land) issues such as tooling, maintenance publications, and future of the M109A4 were also discussed.

The task of putting rounds on the target with the M109A4 lies with the gunners of the Royal Canadian Artillery Regiments. The responsibility for maintaining this piece of kit lies with the Weapons Technician (Land), a task that the students of the M109A4 Weapons Technician (Land) Maintenance course, serial 0301 are more than capable of. [EME Journal No. 1, 2004]

The Electro-Mechanical Technician 431 Trade to the Electronic Optronic Technician (Land)

Of the three LORE trades after Unification, the Electro-Mechanical 431 trade (ELM) had probably the most difficulties, and required years (decades) of tweaking. The new trade was an amalgamation of the Electrical Technician trade and the Instrument Technician trade. Given the dissimilarity of the work performed by those two trades, the forced marriage frequently resulted in frustration for the Craftsmen. Although the two trades had worked closely together, particularly in the repair of armoured vehicle fire control systems, the training (and aptitude) of the technicians was dissimilar. Each trade before Unification had a wide range of equipment - the Instrument trade alone had been split into five sub-trades during the Second World War to ease the overall training load. For the Electrical Technician in the mid-1960s, the technology of the equipment they worked on was based on vacuum tubes, but "transistors" were on the horizon. By the early 70s, integrated circuits were coming into use, with night vision devices and hand-held lasers in service by the end of the decade.

In the 1970's, the rapid advance of technology and the increase in the scope of electronic equipment repaired by the ELM Technician, heavily stressed the trade. Starting in 1978, the single-trade structure was replaced by four career occupation fields. The basic TQ3 - TQ4 level was the ELM Technician MOC 431. This then split into two TQ5 to TQ6B occupations: the Fire Control Technician (Electronic) (MOC 432) and the Fire Control Technician (Optronic) (MOC 433). At the TQ7 level, these merged and became the Fire Control Systems Technician (MOC 435). [LORE Technical Bulletin, No. 2, 1982]

During the 1996 Occupational Analysis, it was proposed that the four sub-occupations be re-combined into one occupation (FCS Technician MOC 434). This took place on 1 January 1999. [EME Journal, No. 1, 1999]

On 26 April 2005, the EME Branch Advisor proposed to change the name of the FCS Technician occupation to Electronic Optronic Technician (Land). The reason was that the Fire Control Systems name was a problem at the recruiting level. Potential recruits confused fire control systems with fire fighting. The Corps of RCEME at the time believed that a change of name was crucial to increase attraction and improve marketing of the trade. In 2006, mainly for recruiting reasons, the FCS Technician was renamed to an Electronic Optronic Technician (Land).

The Electro-Mechanical Technician 431 Conversion Course, 1969

In the RCEME Technical Bulletin, Volume 14, No. 1, of May 1969, MWO F. Jermey wrote a semi-humorous account of the course that converted Master Electrical and Master Instrument Technicians to the new Electro-Mechanical Technician Pay Level 7. Keep in mind that that this was a course for senior supervisors who were already qualified technicians at the top level of one trade, who were being introduced to a second, essentially unrelated trade, so they could adequately supervise the technicians working for them. Note also the loss of the prestige term "master" in their title: now they were just a "pay level". At its best, Unification was an unnecessarily ugly process.

The Electro-Mechanical Technician 431 Conversion Course is to qualify Master Electrical and Master Instrument Technicians as Electro-Mechanical Technicians pay level 7. [431 was the Military Occupational Specialty code for the trade.]

Two decades ago, the instrument trade consisted of three branches: fire control instruments (anti-aircraft), coastal defence, and field instruments. The conversion to the electro part shouldn't present too difficult a problem to the older technicians who held dual qualifications in the electrical and optical fields.

Fourteen candidates attended the prototype 12-week course. For the eight Master Instrument Technicians, the course entailed instruction in electrical and electronic theory, and familiarization on such equipments as Navaid, armoured fighting vehicles, gun control equipment, and generator sets. The syncro-servo systems in the Navaid is old hat to the ancient instrument artificer, but others were in cloud nine. While this group struggled with keeping track of “what's a watt?”, the other six candidates who were taking the instrument portion of the course, struggled with the skill of keeping their eye loops from falling out.

The first two weeks of the instrument course was machine shop practice and precision lathe work. This was a flexible period where project specifications were changed slightly. The six candidates ended up with six different projects, and all mastered the old cut-and-check trick.

The next 30 periods of instruction were on optical theory. During these classes, it was discovered the "circle of least confusion " isn't always between the ears. Following the theory came the practical skills of cleaning optics and binocular repair. Besides having the “instrument touch” - the flicking off that last speck of dirt - one must be very proficient in the wearing of the eye loop. Often it was the eye loop that flipped and the dirt stayed put. During this time of instruction, we developed the skilled “trained eye”'to read all surfaces of the lenses and prisms, by peering into the binoculars from the wrong end. With a little imagination, it is not difficult to see smudge, grease, mites, aberrations, and Newtons rings. To the novice this sounds fantastic and, when we began the overhaul of a pair of binoculars, no one could detect any of these apparent aberrations. By the time the binoculars were re-assembled, all had no difficulty in detecting dirty reticles and smudged lenses. In short, we may not have mastered the technique, but we did acquire the “trained eye”.

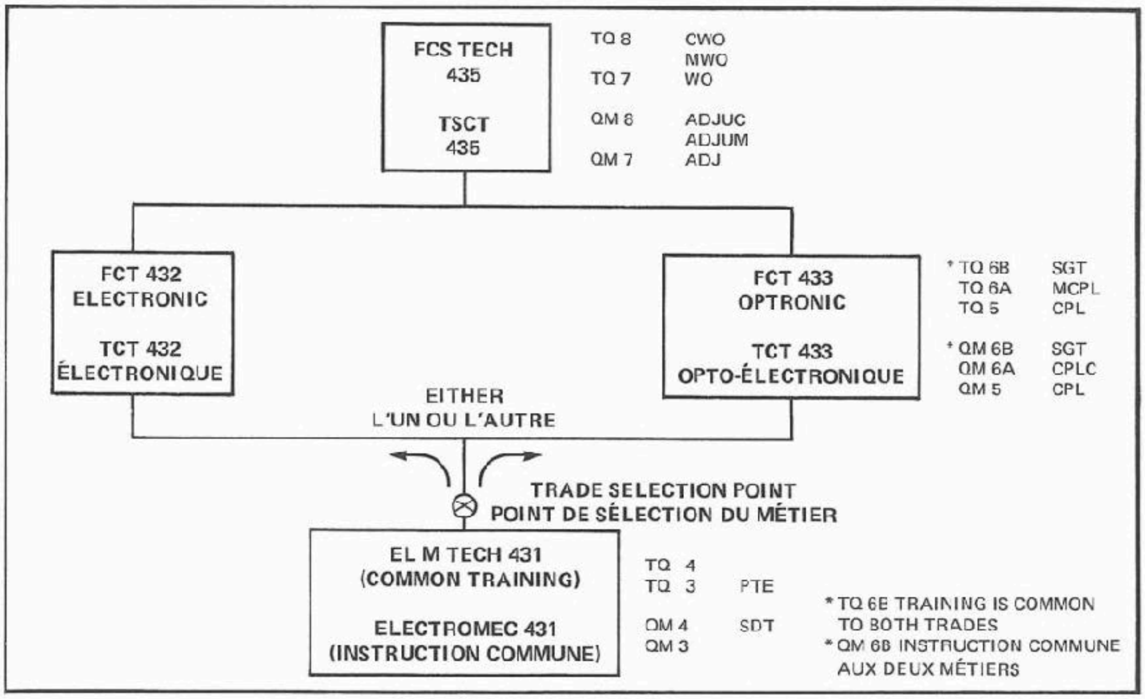
The class took an active interest in all phases of the training, including some instruments that were not taught, such as the calibration of the electric clocks. One candidate took an immediate interest in the electric wall clock and would advance it five minutes at every opportunity. After the instructor got wise, we began to find the clock unplugged or turned back 10 minutes. When the compass calibrator began to give false readings, and a steel screw was found scotch-taped under the test stand, everyone was a suspect. Subsequent tests or adjustments that didn't work out were viewed with suspicion, and instructors began to take baking soda on a more regular basis.

At the beginning of the course it was normal for the candidates to keep a countdown of the weeks remaining by the number of sheet exchanges left. Towards the end, the instructors were counting them for us. The course was worthwhile and will be remembered by all concerned. [RCEME Technical Bulletin, Volume 14, No. 1, of May 1969]

Electro-Mechanical Technician On-Job-Training (Level 4), 1982

From 1968 to 1978, there was a tremendous increase in the scope of repair and the level of technology assigned to the ELM trade, particularly with the introduction of many electronic systems. It became extremely difficult to conduct adequate training in the time available, and still maintain the level of expertise required for modern electro-optical systems equipment. Accordingly, in 1978, the trade was re-structured into Electro-Mechanical Technician, Fire Control Technician (Electronic), Fire Control Technician (Optronic) and Fire Control Systems Technician. In 1982, WO J.M. Bean described the OJT Level 4 training at 202 Workshop Depot.

> Some of the technical changes which have been introduced to the Canadian Forces over the past decade have had a significant impact on the Electro-Mechanical Technician (ELM Tech) trade. Initially, this trade was two separate electrical and instrument technician trades, and in 1969 was amalgamated into the ELM Technician 431 trade. The latest model has emerged as the Fire Control Systems (FCS) 430 trade, organized as shown in the figure below.
>
> It will be seen from the diagram that the TQ4 training level becomes very significant. It is the point where ELM Techs are selected for the FCT 432 (electronic) or FCT 433 (optronic) trades. Since the TQ4 level is achieved through on-job-training (OJT), it became necessary to standardize the programme as much as possible. One way of ensuring maximum standardization was by centralizing the program.



Fire Control System Technician 430 Trade Diagram

> In September 1980, a meeting was held in NDHQ to decide on the introduction of the new Fire Control Systems Technician 430 trade structure. Those attending

identified a number of points for urgent attention to ensure a smooth transition. These were the establishment of a coordinating agency for implementation of the trades, the revision of TQ4 training standards, and the centralization of the on-job-training program.

The meeting also reported that the on-job-training standards (OJTS) for TQ4 required early amendment to ensure that the technicians undergoing OJT were properly exposed to both the electronic and optronic fields. Moreover, since the specialty assignment would take into account the technicians' performance during OJT, provision should be made on the OJT Report for supervisors' recommendations towards either FCT 432 or 433.

To conduct OJT, it was considered that one centralized location would produce the best qualified technician in the shortest period. Investigation revealed that 202 Workshop Depot and CFB Gagetown were two locations that could provide the range and calibre of OJT necessary to properly support the restructured trade. Since the essential resources of space, equipment and manpower could best be allocated by 202 Workshop Depot, this organization was tasked with the mission.

Resulting from the work of a board convened at CFSAOE in January 1981, the following major amendments to the 431 trade specifications were suggested:

> Heater repairs should be placed in the Vehicle Technican 411 trade;
>
> There was a requirement for the repair of mobile air conditioning systems;
>
> Electrical generators, motors, and controllers would include vehicle starters and alternators; and
>
> Electrical and electronic automotive components should be deleted.

There were problem areas, the most significant being accommodation for the 40 to 50 technicians annually, and completing their OJT in a six-month period. Then came the availability of training supervisors and equipment, and the necessary space to conduct the program. The latter was resolved by rebuilding the work benches in the industrial electrical shop with assistance from the carpenter shop. Ten benches were prepared in each of the electrical and instrument shops to accommodate ten trainees in each section. Once these areas were designated for the training, the TQ3s from CFB Borden were welcome.

Sufficient equipment to keep the trainees occupied was made possible by:

> Establishing training work centres in the different work areas. These work centres were loaded by the training coordinator and the production planner for that equipment pertinent only to OJT TQ4;
>
> Repairable reserve equipment from 25 CFSD was brought in as necessary for repair by the trainees;
>
> Material Authorization Change Requests were submitted for all equipment employed and used for training. This was to ensure a continuing schedule if the production line was low on equipment or work;
>
> Since the TQ4 was oriented towards the Armoured Vehicle General Purpose and none were available at 202 Workshop Depot, coordination was effected with

units at CFB Valcartier to allow training on these vehicles, including repair of mechanical and optical equipment; and

Equipment was diverted from second line to the Depot by Mobile Command.

The training programme is divided into two phases, each composed of a number of Performance Objectives (POs), with each phase followed by a test. On completion of the programme , the trainees are subject to a final test. The programme is structured as follows:

TQ4 On-Job-Training

Performance Objective Number	Nomenclature
Phase 1	
401	Industrial safety precautions
402	Selection, use and care of hand tools
405	Use of electrical/electronic test equipment
406	Diagnose and repair faults on AC motors
407	Diagnose and repair faults on DC motors
408	Diagnose and repair faults on AC/DC generators
409	Operate portable generator sets
410	Diagnose and repair faults on portable generator sets
411	Fabricate and maintain wiring harness and cables
412	Install and maintain field force distribution circuits
413	Maintain batteries (excluding lead acid)
414	Maintain power traverse system of AVGP (Cougar)
415	Maintain power traverse system of AVGP (Grizzly)
416	Diagnose and repair portable power tools
417	Diagnose and repair electronic power supplies
419	Use of optical/precision mechanical test equipment
Phase I Test	
Phase 2	
401	Industrial safety precautions
402	Selection, use and care of hand tools
403	Hand finish metal surfaces
404	Machine external surfaces using lathe
405	Use of electrical/electronic test equipment

Performance Objective Number	Nomenclature
418	Maintain metal detectors
419	Use of optical/precision mechanical test equipment
420	Maintain quadrants
421	Maintain Sight M28C
422	Maintain prismatic binoculars
423	Maintain fire control devices of the 105-mm howitzer
424	Inspect and desiccate miscellaneous optical equipment
Phase 2 Test	
426	Perform basic technical administrative functions
Final Test	
Notes: 1. POs 401, 402, 405, and 419 are practiced throughout the training period. 2. PO 426 can be conducted immediately prior to, or following, a phase or the final test. 3. The programme can start with phase I or phase II. At present, of the 26 POs that trainees must fulfil, three are to be completed during the first 90 days of their posting to a new unit. They are: a. 410 — Diagnose and repair portable generator sets; b. 412 — Field force distribution circuits; and c. 413 — Maintain nickel-cadmium batteries.	

All aspects of the TQ4 OJT programme are currently proceeding well. The first group of trainees arrived on 15 May 1981, and as of February 1982, 25 technicians have completed the program. Four more groups are scheduled during the next year.

This paper would be incomplete if the fine work and cooperation of the civilian personnel in the Depot was not mentioned. Their efforts had more than a small part to play in planning and organizing a successful training program. [LORE Technical Bulletin, No. 2, 1982]

Fire Control Systems Technician 430 Occupation Update, 1990

In 1990, the Occupation Advisor reported on the state of the Fire Control Systems Technician Occupations.

> The 430 Occupations are suffering a shortage of technicians in some rank levels. This shortage has been brought about by a variety of events including attrition, manning of capital projects, and manning of new units. CFSEME has instituted a “Get Well” programme to help alleviate this shortage and has been successful in conducting extra QL3 courses. The graduates will take time to be trained to a journeyman level in their chosen field. 202 Workshop Depot has been instrumental in relieving units of the need to conduct on-job-training (OJT), but with the increase in QL3 personnel, the career manager has had to send some to base maintenance and service battalion positions.

Low Level Air Defence (LLAD) units in CFE and CFB Chatham were brought up to strength, as were the workshops required to support them. Projects such as PMO AALAV, Night Observation Device Long Range (NODLR), and the Night Vision Goggles were manned. We also managed to fill the CSM position at Base Maintenance, CFB Lahr ,and continued to fill the Occupational Analysis position with DMOS in Ottawa. The demand for Fire Control Systems Technicians will continue to increase as technology expands and new equipments are purchased to meet this high tech expansion.

Training must also keep pace with this expansion if the equipment is to be maintained to the same high standard. To continue to prepare our technicians to meet our changing needs means that significant changes must be made to training. With this in mind, Performance oriented Electronic Training (POET) has been restructured, so that technicians will be better prepared earlier in their career. By fiscal year 90/91, POET will be expanded to the point where a successful student will attain the XG (Electronic Fundamentals) qualification and the 9L level of XH (Digital Principles) qualification. This level of training is presently attained by our technicians at the QL5 level. As you can see, we will have major change requirements not only in our training packages but also in our basic occupation specifications.

The training at the warrant officer level has been well established in the QL7 package. This common training for all EME occupations is a prerequisite for promotion to the rank of master warrant officer. This package covers all aspects of EME management and provides our technicians with a well based knowledge enabling them to accept base and field positions common to the Branch.

The 430 Occupations have been introduced to many new concepts as applied to old technologies during the past year. Everything from a miniature set of binoculars, trialed in CFB Gagetown, to the many changing facets of night vision equipment has been effected. Some of the notable equipment acquisitions are the Chemical Agent Monitor (CAM) and LLAD systems.

The rebuild of the Leopard tank at 202 Workshop Depot is proceeding very well and a similar programme to refurbish the M109 Howitzer fleet is well into the scaling phase. With the changing role for the Armoured Vehicle General Purpose family of vehicles, new sighting and weapons systems are being considered.

Even such simple systems as photocopiers are not exempt from change. A field force copier set was introduced, and is designed to produce limited copies during field exercises. An engineering copier has also been procured to replace the "Blue Ray" copier. LETE has designed and built a light-proof box, which doubles as a mount for the copier. It is hoped to have this copier available to units soon.

A replacement (M2100) periscope is also being considered for the M17 periscope presently used on the M113 vehicle and on the M109 Howitzer. The M2100 periscope is laser eye-safe, and ballistic protected with glass optics. It is a completely repairable and purgeable optical system. This is a vast improvement over the M17 plastic, non-repairable system. This new periscope is presently installed on some M113 vehicles with the R22R in Valcartier.

PMO AALAV is a report in itself ,as they are considering numerous upgrades to existing equipment and procurement of new equipment. Upgrading systems such as the 84-mm Carl Gustav and the TOW missile, and the replacement of the M72 66-mm anti-tank rocket system with an updated system should provide the user with greater anti-armour capabilities.

The future for the 430 career field is opening on to an era of expanding technologies. During the recent Exercise Blue Bell 430, working groups discussed the implications brought about by these rapidly-changing technologies. With the changes to POET coming into effect, the senior technicians believed there is a need to split the occupation after POET. This change would effectively delete the 431 occupation. As with any proposal to change the occupational structure, a great deal of work is involved. Implementation of such a structure change requires agreement not only from the EME Branch but also from many other directorates within NDHQ. For those that can remember back to the start of the 1980's when we initiated an occupational analysis (completed in 1982) for the EME Occupations, the 1990's appear to be leading toward another step in this direction. [EME Journal No. 3, 1990]

The Materials Technician 441 Trade

The events leading up to the formation of the Materials Technician trade are described in Annex A.

The Formation of the Materials Technician Trade (MOC 441) by the Trade Advisor

In 1985, LCol L.W. Hyttenrauch (the former trade advisor) reported on the formation of the newest addition to the LEME family of trades.

> In the 1970s it was recognized that the training received in the Air-oriented workshop trades (MOCs 561 Metals Technician, 562 Machinist, 563 Refinisher Technician) did not fully meet the needs of the land environment. This was confirmed by the Air Workshop Trades and the LORE Trades Occupational Analysis completed in 1981 and 1983 respectively.
>
> These studies also found that considerable morale problems were caused by bouncing tradesmen between the land and air environments. The only reasonable solution was to split the materials-related trades of the Air Element into separate Air and Land trades. The LEME (then LORE) Branch decided to amalgamate the various skills into a single Materials Technician trade of 250 tradesmen.
>
> The trade is responsible for the following land-equipment-based functions: welding, metal work, auto body repair, fibreglass, textiles, machining, refinishing, and rough carpentry. As with other LEME Branch trades, the Materials Technician trade is employed across all the commands as indicated in the following table.

Percentage of MOC 441 Trade Employed by Command

Command	%
Mobile Command	50
Canadian Forces Europe	15
Air Command	13
ADM (Materiel) Field Units	13
Canadian Forces Training System	8
Maritime Command	1
Total	100%

> The Materials Technician trade was officially formed on 1 January 1985, with rebadging ceremonies at every major base in Canada and CFE. The personnel requirement for 1 January 1985 was as shown in the following table. The other LEME trades are shown for comparative purposes.

Materials Technician Personnel Requirements, 1985

Rank	Materials Technician 441	Vehicle Technician 411	Weapons Technician (Land) 421	Fire Control Systems Technician 430
CWO	1	34	9	10
MWO	3	105	21	19
WO	10	176	40	32
Sergeant	33	307	52	48
Master Corporal	40	522	62	66
Corporal	74	384	57	55
Corporal/ Private	89	1142	126	96
Total	250	2670	367	326

To meet the target of 250 male personnel, a voluntary remuster programme was implemented, and approximately 170 tradesmen from the MOC 560 series and YTEP graduates joined the ranks of the LEME Branch as Materials Technician tradesmen.

At the end of the first remuster, some of the MOC 560 series were still significantly overborne. A second remuster programme was therefore required to ensure both the MOC 560 series trades and the Materials Technician trade remained viable over the five year transition period. This second remuster programme to recruit addition MOC 560 series technicians will close while this edition of the EME Journal is going to press. Early indications are that at least another 30 personnel will remuster, bringing the Materials Technician trade total to over 200 and fixing the overborne state in the MOC 560 series trades.

To ensure the trade receives its full complement of personnel by 1990, the CF will recruit between 30 and 40 Materials Technicians per year, starting this year. The trade will be open for annual remuster as well as recruiting “off the street”.

The major challenge in the development of this trade is in meeting the conversion and steady state training requirements. As it stands at this time, all 200 personnel who have remustered will go on conversion training within the next two years. Steady state training started on I January 1985.

All Materials Technicians employed in machining and welding of combat vehicles will be trades specialty qualified. All commands are actively reviewing their establishments to ensure those functions that are best carried out by the 441 trade are in fact being done by Materials Technicians, and that the workload and resultant establishments reflect this situation. Did you know that the most senior Materials Technician rank in FMC and CFE is “sergeant,” and this is a Land trade!

> A trade badge design has been submitted for Branch consideration and approval. The design incorporates the three previous trade functions represented by the torch, micrometer, and needle, interwoven into one trade. [EME Journal, No. No. 1, 1985]

Materials Technician 441 Update, 1989

In the EME Journal No. 2, 1989, the Materials Technician occupation advisor updated the status of the trade, four years after its inception.

> January 1989 marks the start of the final year of the Five Year Implementation Plan for the Materials Technician occupation. This occupation, which was officially formed on 1 January 1990 has matured a great deal during the past four years and by 1 January 1990 will reach most of the milestones in the original implementation plan.
>
> When the occupation was initially formed in January 1985, it consisted of 249 technicians, all ranks. In the last four years, it has grown at a tremendous rate and now stands at 289. It is anticipated that this number will continue to increase and should be at 295 by summer 1989.
>
> The approximate establishment as of January 89 is:

Materials Technician Establishment, January 1989

Rank	Establishment	Strength	Difference
CWO	2	2	
MWO	5	6	1
WO	15	12	-3
Sergeant	47	32	-15
Master Corporal	49	49	0
Corporal	139	153	14
Private	32	23	-9
Total	289	277	—

> Under the original plan, MOC 500 series technicians were to fill some Materials Technician positions during the five year implementation plan. As of summer 1989, this aspect of the plan will end. The good news is that we are now on our own. The bad news is that we will not have enough trained technicians to fill all of the vacancies. While it is difficult to forecast the exact shortfall, it would appear to be in the area of 20-30 technicians. A “get well program” is now underway to address this problem. The bottom line, as far as the establishment is concerned, is that the Materials Technician is a growth industry. Look for a shortfall of about 20-30 technicians (about 15% of establishment) for the next year or so.
>
> All Materials Technician training is now well established at CFSEME. A Course Training Standard (CTS) Review was held in Trenton in December 1988 to review

and formalize the adjustments that have evolved to the original courses. I would like to emphasize that the purpose of the CTS Review was to complete minor adjustments to the present training and input the findings of the QL3 and QL5A course validations. There was no attempt made during this CTS Review to revamp the occupational specification.

Training of Materials Technicians at CFSEME is progressing well despite some facility problems at the School. The "get well program" is pushing the training facilities beyond their capabilities and some problems have been encountered. Progress is being made to correct some of the occupational health hazards associated with Hanger 12, and a new Materials Technician training facility is high on the CFSEME Facilities Development Plan. A number of new pieces of equipment such as the Linde plasma arc cutting system, electronic vinyl sealing machines, and computer-controlled welding simulators are also being introduced at CFSEME to keep our technicians and training methods current with the latest technologies.

There are still some concerns about various aspects of training for Materials Technicians.

> New Equipment and Technologies. New equipment and repair responsibilities demand that new skills be added to the Materials Technician repertoire. Areas of current interest and concern include the BV206 vehicle and its requirement for skills in fibreglass repair, and the various new types of bridging being added to the engineer inventory, which require expertise in the areas of inspection and repair. OSQ training may be required for this equipment.
>
> Welding. There is still some concern about the method of instruction on this OSQ. A wide variety of welding techniques are taught. Problems are often encountered with hard-to-get materials and the evaluation of test pieces. CFSEME would like to include more battlefield repair technique training. We don't think we have the "optimum" solution yet, and further refinements may be necessary.
>
> Rough Carpentry. There has been criticism on the lack of training given to Materials Technicians in this area, stating that it does not meet the needs of the user. On the other hand, the expectations of the user have grown significantly. The task, as quoted from the Trade Specification is: "Inspects, repairs, and constructs components such as trim vanes, cargo vehicle bows, shelving, crating, and dunnaging". As you may notice, there is nothing in the specification about refinishing furniture or building a bookcase for the CO. The actual responsibilities in the area of carpentry are very limited, and there is no plan to expand them at this time.

In addition to the occupational advisor responsibilities, DCMEM 2 is also designated as the centre of expertise for materials engineering. A major problem to this point has been a lack of engineering expertise in the materials engineering discipline. Areas of particular concern have been the development of welding specifications and repair procedures for some of our major equipment. In order to meet the requirement in this area, a contract is being established with a civilian engineering firm that specializes in the area of materials technology. This idea is not a unique solution to a difficult problem and is used by the Navy and Canadian Coast Guard to provide specialized engineering support to their fleets. It is hoped

> that this will provide the engineering expertise needed to support the new materials and technologies being added to the Materials Technician.
>
> What about the future? Do we have it right? What changes must we make to ensure the Materials Technician meets the needs of the user? It would appear that one of the biggest problems with the occupation is the amount of knowledge and skills that we are trying to teach to one individual. It is imperative that we not only teach our soldiers the proper technologies but even more important that we employ them in a manner which will ensure that their skills are developed and high levels of expertise maintained.
>
> The Five Year Implementation Phase will end in January 1990. An Occupational Analysis for the Materials Technician 441 Occupation has been requested for 1990 to review the status of the occupation and recommend what changes, if any, are required.
>
> The Materials Technician has become a key member of the LEME Occupational structure. As new technologies and equipment are introduced to the CF, it is anticipated that he will continue to play a key role in our maintenance units and depots. As the Five Year Implementation Phase comes to an end, there will be a renewed effort to ensure that the Materials Technician is structured, trained, and employed in an efficient and effective manner to meet the needs of the Army. [EME Journal No. 2, 1989]

Materials Technician Update 1990

In 1990, the Occupation Advisor, LCol R.A. McLeod, summarized the status of the trade at the end of the five year implementation plan.

> The Materials Technician occupation became five years old in January 1990. It entered its sixth year as a flourishing occupation with some growing pains, but with a bright future and a solid reputation for high quality, versatile technicians. We can look forward to more stability than before, but as the Army learns more and more about the capabilities of the Materials Technician, the more we will change to match the requirement.
>
> After an initial delay in staffing the results of the December 1988 Course Training Standards Review, things are moving again. The course training plan and the training that follow will reflect the amended occupational specification, including more composite materials, introducing maintenance on the new C4 gas mask, moving some advanced machining training to the QL6A level, and minor adjustments in other areas including auto body repair. As for the occupational specification itself, it has been adjusted over our first five years to reflect the changing needs, but a full formal analysis is needed and an occupational analysis for the Materials Technician has been requested for 1992.
>
> The occupation is now at the point where manning is approaching the authorized strength, and strong recruiting should help continue this improvement. The status as of 15 May 1990 is:

Materials Technician Occupation Status

Rank	Establishment	Effective Strength
CWO	3	3
MWO	5	5
WO	14	15
Sergeant	47	38
Master Corporal	54	44
Corporal	94	147
Corporal/Private	91	22
Total	307	308*
* This figure includes 33 in the training system. There are 275 personnel trained QL3 or better.		

Our Materials Technician training facilities continue to be taxed to the limit and night training is conducted in Materials Platoon at CFSEME in an effort to cope with the load. The autobody training for vehicle technicians has been cancelled. An additional five badly needed instructors were recommended by the 1989 OSER and could provide some relief in 1990. A new Materials Technician welding facility is the CFSEME number one construction priority. The LENCO welding trainers are being well used and stands are being made for training on overhead welding. Validation of the requirement for a sewing machine maintenance course is ongoing, and it is hoped that training at CFSEME can be conducted by 1991.

A Materials Technician Working Group Meeting was held at LETE on 23-24 January 1990. It gathered 28 Materials Technicians from across Canada and CFE with senior Command and NDHQ staffs to exchange information and collectively provide input to the direction in which the occupation is headed. Some major areas identified as requiring attention included:

Occupation Specifications. It was determined that other occupations have unrealistic expectations of what the occupation is capable of, and that the occupation specifications should be more widely distributed.

Concentration on Basic Skills. It was felt that we were losing sight of what basic skills were needed, and that we could branch out too far and lose sight of what our occupation is supposed to do. At the same time, it is important that everyone remain aware of new materials and technologies that could impact on our occupation.

Job Rotation. It is essential that all OQ3s (Occupational Qualification Level 3), OQ4s, and OQ5s be rotated throughout the trade, and it is especially so for the OQ3s and OQ4s. It was recommended that more coordination and cooperation be established between first and second line units. It was also important to remember that individuals progress at different rates.

Training. OQ5 training should be broadened to include composites, machine lathe, APC, MILLAV, and AVGP. Occupation Specialty Qualification (OSQ) 02

> should include bridging, TOW under armour, and Leopard tank. A third OSQ should be initiated that will cover all aspects of composite materials.
>
> Rotation. The senior unit representative must be responsible for ensuring that the OQ4 gets the proper training. He must make sure that the technician gets rotated through all aspects of the trade and is ready to go on the OQ5 course. The occupation should also be allowed to rotate through the various branch duties, such as control office positions, and also be included in branch appointments, such as company and regimental sergeant majors.
>
> Life Cycle Material Management. Jigs, fixtures, and speciality tooling should be an automatic issue. The LCMM must also include training manuals and repair manuals that cover general and specific repairs. Specific repairs should be written so that all information as to equipment settings and method of repair is included. Each new piece of equipment should be accompanied with a manufacturer-run course, as is currently being done for some of the items.
>
> Health and Safety. Commanders at all levels should use the expertise and experience of the specialist (Materials Technician) when it comes to occupation-related functions. Paints are a prime example. They are used by almost everyone in every unit, either at home or in the work place, but there is very little education being undertaken to instruct everyone in the safe application of paints.
>
> Annual Training Inspections. It was felt that the occupation must take an active part in ATIs. At present, this is not happening in most units. There is a need to identify what must be inspected, and the technician must be involved at an early stage of his career, so that he will have an understanding of the requirements when he gets to a senior position and may have to schedule an inspection.

A very successful two-week course was conducted in April 1990 at EWK, Kaiserslautern, Germany to teach Canadian Forces Materials Technicians the repair to third level of the new medium floating bridge. The technicians carried out actual repairs on bridge sections, and participated in the preparation of a training film to be used at CFSEME, and to supplement Canadian Forces Technical Orders at the bases.

As the reputation and the versatility of the Materials Technician has increased, so has the complexity of his work and the materials used and repaired. Our occupational analysis planned for 1992 will look at these things, among many others, including the time we must spend training for the widely varied responsibilities. In the meantime, we now have a Materials Engineering Services Contract with a civilian firm to provide engineering expertise in developing repair procedures. The MILLAV Project will provide the correct training aids and welding equipment for hull repairs to the new Bison Wheeled Armoured Vehicles. The C4 Mask Project will add approximately 20 Materials Technician positions to our establishments. Our recruiting is exceeding attrition. Materials Technicians have built a solid reputation. Now that the manning shortages are being relieved Materials Technicians can soon fill their share of the workshop and headquarters' positions to get the rounded experience we expect of all EME technicians. [EME Journal No. 2, 1990]

The Advanced Machinist Course, 2001

In 2001, Master Corporal J.C.R. Lalonde outlined the advanced machinist course taught at CFSEME.

> Once a year, a course of five students is taught advanced machining at CFSEME. The course is eighty-three training days in duration, which, by the way, is two weeks short of six months. The course is broken down into four phases; precision measuring and inspection, basic and advanced lathe operations, milling machining, and precision grinding.
>
> The training begins with approximately two weeks in the classroom, in which the technicians learn to manipulate different precision measuring tools, such as gauge blocks, sine bar, outside and inside micrometers, the universal bevel protractor, vernier height gauge, and dial indicators. Basic and advanced mathematics, including trigonometry are big topics to be mastered, and are used throughout the entire course. Accurate hole location and measuring must be mastered to within .0001" (that's one ten-thousandths of an inch).
>
> Then comes the fun stuff - the lathe. It is one of the most versatile machine tools in the industry. The work is held in a chuck and rotated on its axis while a cutting tool is advanced along the lines of a desired cut. The technicians learn to use all the tooling and accessories of the lathe. The operations performed on the lathe include thread cutting, manufacturing springs, drilling, boring, reaming, grinding, polishing, and cutting a taper. All of which are performed to a very high accuracy.
>
> The training carries on with approximately two months of milling machine work. The milling machine is not used as often as the lathe, therefore making it particularly interesting. It has the capacity to manage a variety of different operations normally performed by other machine tools. During this portion of the course, our technicians not only learn how to mill flat and irregular-shaped surfaces, but also become skilled at thread manufacturing, helical milling, gear cutting, drilling, boring, reaming, and slotting operations.
>
> Lastly comes surface and cylindrical grinding, which is used to improve surface finishes and attain extremely high accuracy. This portion of the course is just over a week long. The technicians learn how to mount various workpieces for grinding as well as other basic grinding operations. Of course safety has the highest priority in any machine shop. It is an essential part of training and is strictly adhered to by all.
>
> In conclusion; if the environment you are working in has a machine shop and an advanced machining qualified technician, don't be to shy to stop in for a visit. You will be pleasantly surprised to see just how versatile we can be. The 441 Material Technician can always find a way to get the job done. [EME Journal No. 1, 2001]

Chapter 5 - The RCEME Militia Trades

As part of the review and formalization of the Militia trades in the late 1950s, on 30 June 1960, the Director of Military Training ordered that a trade specification be created for each of the trades in the Canadian Army Militia. The militia trades represented a subset of the regular army trades, sometimes with a specialization not normally found in the regular force, because the militia tasking had an emphasis on National Survival in the event of a nuclear war.

Of these, the trades that applied to RCEME were:

Clerk Administrative (M) Group 1 (common to all Corps)

Signaller (M) Group 1 (common to all Corps)

Driver Mechanical Transport (M) Group 1 (common to all Corps)

Vehicle Mechanic (M) (RCEME and RCASC) Group 1, Group 2

Electrical Mechanic (M) (RCEME) Group 1, Group 2

Radiac Mechanic (M) (RCEME) Group 1, Group 2

Recovery Mechanic (M) (RCEME) Group 2. The progression to this trade was from the Driver Mechanical Transport (M) Group 1.

The need for a militia Electrical Mechanic (M) was challenged on several occasions. On 18 August 1960, DEME recommended that the trade was not required, because any vehicle electrical fault beyond the capability of the Vehicle Mechanic (M), would be beyond first line repair and would be handled by the supporting CA (R) workshop. Also, the repair of electrical equipment, such as generators, and electric motors, was not a first line function, and cable and wire repairs were not a RCEME responsibility.

However, on 2 September 1960, after another review, DEME stated that the trade was required under national survival conditions, because rescue at night required the use of portable generators, floodlights and searchlights, which needed repair support and in turn needed knowledge of high voltage power lines. The national survival vehicle columns would have a requirement of battery charging. Also, the elimination of the trade could have an adverse effect on recruiting.

The RCEME Technical Bulletin Vol. 6, No.1, February 1961 noted that the following RCEME Militia trade specifications would be published early in 1961:

Electrical Mechanic (M) Groups 1 and 2

RADIAC Mechanic (M) Groups 1 and 2

Recovery Mechanic (M) Group 2

Vehicle Mechanic (M) Groups 1 and 2

Welder (M) Groups 1 and 2

In addition the following trades were authorized for RCEME Militia units:

Clerk Administrative (M) Group 1

Driver Mechanical Transport (M) Group 1

Storeman Clerk (M) Group 1

The LEME Militia

In 1992, Lieutenant-Colonel D.N. Redman, Senior Staff Officer, Maintenance, at Mobile Command Headquarters (FMC HQ) wrote a major article on the LEME Militia.

The LEME Militia has evolved tremendously in the past five years, both in terms of training and strength. It is now recognized in FMC HQ as the model which other Combat Service Support (CSS) Militia trades should try to achieve. There is, however, much work yet to be done. This article is to advise you on the current status of the LEME Militia, and the future plans for this essential part of the total force.

The 1989 budget ended the "2002" plans for growth and restructure of the Army. That plan had called for a growth in the LEME Militia from its 1989 level of approximately 900 all ranks to a total of 6,365 personnel. While it is not yet clear what will replace Army 2002, several principles are emerging. First, the Defence budget will at best remain fixed. Money will drive what is achievable. Second, more emphasis will be placed on roles and tasks within Canada. Regional, territorial, and continental defence of Canada operations will become higher profile, as indeed they are now.

Finally, Canada will retain a capability to participate in "out of Canada" operations. The level of this capability is unclear but will cover Peacekeeping, Contingency Operations (like the Persian Gulf), and probably some level of commitment to collective defence in Europe.

This reoriented Army, with severe financial restraint applied, presents four major challenges to the LEME Branch, and CSS world in general. First, there will be fewer regular force EME personnel. While current fleet sizes are unlikely to decrease rapidly, the number of regular force technicians most likely will decrease very soon. Secondly, the financial resources to contract maintenance services will be severely reduced. Overhaul and maintenance (O&M) cuts were already enforced last year, with far more dramatic cuts expected. Next, the widespread infrastructure, which currently supports our total force Army, is likely to be further reduced. The Infrastructure Adjustment Projects (IAP) in CFBs London and Chatham are examples of what may be expected. The Militia are significantly affected by this infrastructure reduction process. Finally, while all is reducing, the equipment fleet inventory is expanding. Projects which were contracted before the 1989 budget are now delivering. The Militia Light Armoured Vehicle (Mil LAV) and the Heavy Logistic Vehicle Wheeled (HLVW) are two examples where fleet sizes are being increased, with no additional technicians.

These four challenges must be addressed rapidly if the EME Branch is to continue providing an acceptable level of support to the Army. Five partial solutions which are quickly evident are:

Increase contracting;

Decrease equipment inventories;

Control equipment usage;

Increase workshop productivity; and

Increase the LEME Militia.

Contracting has been seen by many as the answer to all our problems. However one must remember that personnel, operations and maintenance (PO&M) budgets are on the decline. Where the increased funds to do O&M contracting are to come from has not been identified. Contracting also has other very significant impacts. The state of operational readiness, the availability of contract support, the reliability of contract support, support standards, the training of EME technicians for hostilities, and more jump to mind.

The decrease and control of usage of equipment inventories is currently under review both in NDHQ and FMC HQ. Fleet rationalization is being reviewed in detail, but until the end state tasks and roles of the Army are clear, this rationalization cannot be put into effect. Increasing workshop productivity has, and continues to be, a focal point of all EME inspections and reviews.

The one solution that appears to hold the most promise and flexibility is to expand and improve the EME Militia/Reserve. Four actions are required in order for the EME Militia to be ready to assume full Total Force tasks. These are:

Achieve common knowledge/skill standards to regular EME personnel;

Increase EME Militia strength;

Expand the militia repair scope; and

Increase the productive hours of EME Militia technicians.

The principle of one task, one standard has been the goal of militia training since the 1985 revision of the FMC mobilization specifications. The EME mobilization specification trades are as shown in the table below. Also shown is whether or not it is planned for each trade to be open or closed to the EME Militia. The concept is that the EME Militia will be recruited, trained, and employed in mobilization trades. He/she will be trained to the same standard as his Regular force partner, however on a reduced span of equipment. By using “mob specs”, it will be possible to complete the technical training for the militia technician to the QL3 (Ml or BTT) level in 45 days (or less) over two years. The training will be done using exactly the same Master Lesson Plan (MLP) as those of his/her Regular force counterpart.

EME Militia Trades

Sub-MOC	Trade	Land Force	Restructure
M411A	Vehicle Technician	Wheeled	Open
M411B	Vehicle Technician	Tracked	Open
M411C	Vehicle Technician	Engineer Equipment	Open
M411D	Vehicle Technician	Aviation Ground Support Equipment	Open
M411E	Vehicle Technician	Recovery	Open
M421A	Weapons Technician (Land)	Small Arms	Open

Sub-MOC	Trade	Land Force	Restructure
M421B	Weapons Technician (Land)	Artillery	Open
M421C	Weapons Technician (Land)	Armoured Fighting Vehicles	Open
M421D	Weapons Technician (Land)	Security Control	Close
M430A	Fire Control Systems Technician	Electronic	Open
M430B	Fire Control Systems Technician	Electro-optic	Open
M430C	Fire Control Systems Technician	Optics	Open
M441A	Materials Technician	Welding	Open
M441E	Materials Technician	Machinist	Open
M441C	Materials Technician	Auto body	Open
M441D	Materials Technician	Paint	Close
M441E	Materials Technician	Textiles	Open
M441F	Materials Technician	SMW	Open

The transition from MITCP training to “mob spec” based training is currently underway. The M411 CTS and CTP were finished in September. The M421 CTS and CTP were completed in November 1990. The M441 documents were completed in February 1991 and the full set of M430 trades were drafted in May. The writing boards have been a joint TSHQ/FMC HQ effort with participation from NDHQ/DLES. Militia and Regular force personnel have been on all boards.

The MLP for the M4IIA are currently being compiled from the regular force 411 MLP in EMERS/CFSEME, CFB Borden. If successful, the intention is to run all 411 training in summer 1992 to the “mob spec” standards. All other trades will have pilot “mob spec” courses run in summer 1992.

With the training standards addressed, the next problem is to address the EME Militia strength. A recruiting assistance package has been developed in FMC HQ and forwarded to recruiting centres and all commanding officers of regular and militia service battalions. This package is designed to show all of the new EME trades open in the Militia and to show the civilian trade equivalents. Civilian equivalencies are extremely important to the EME trades as they may reduce or even replace the technical trades training required. The recruiting of trade qualified militia technicians is the preferred method of entry whenever possible.

This recruiting package is obviously designed as an aid for local recruiting. It is clear, however, that it does not replace the need for an active local program. The LEME Association has been requested informally to assist in these local programs

> by using their influence in local industry and business. Support for the EME Militia must be sought from the reservist's employer. This partnership can be advantageous to both the reservist and his employer, as the reservist receives leadership/management training, often of real value to his full time employer.
>
> The recruiting and retention of EME Militia technicians will be difficult and require constant effort. The previous comments are not intended to gloss over the magnitude of this effort. They are designed to show that additional efforts and initiatives are forthcoming at all levels. This must continue.
>
> The third action required is to expand the scope and volume of repairs undertaken by the EME Militia. This implies that the current Militia Permissive Repair Schedule (PRS) C- 04-010-024/NP-001 must be rewritten. DLES 2 has taken on this requirement as they control this document. The intention is that the Militia PRS will be exactly the same as the regular force PRS. The appropriate mob spec militia technician will be identified by task. The PRS will indicate that the full scope of repairs will only be restricted by the appropriate command headquarters if it is shown that a militia organization lacks equipment, facilities, or training. This will be by exception only. It is hoped that the new PRS will be out for implementation no later than December 1993. This matches the plan for training to mobilization specifications.
>
> The final action required is to increase the productive hours of EME Militia technicians. It is clear that with the four challenges to the EME Branch, presented at the start of this article, the EME Militia must be fully utilized. This requirement means that a percentage of parade nights and weekends must be devoted to production. The Militia Service Battalions in particular must have Control Identification Numbers and Workshop Management System facilities. Policy/procedures must be developed to accommodate the different activity levels of these organizations. These requirements have been discussed between FMC HQ and DLES. Future land forces restructuring plans will accommodate these changes.
>
> In closing, it is clear that the EME Militia is an integral part of the new Total Force Army. Without the continuing development of this element, the Army will be unable to meet its commitment in the future. Much work has been done to develop the EME Militia but much more is yet to be done. Active participation at every level, from Craftsman to NDHQ, is required to ensure that this progress is maintained. [EME Journal, No. 1, 1992]

Reserve Training at CFSEME, 2002

In 2002, WO W. Lundell, CFSEME HQ wrote and update on Reserve Training at CFSEME.

> The history of the Reserve LEME Technician can be traced back to the origins of the EME Branch in 1944. Today's technician came through an evolution much the same as their counterparts in the Regular Force. With the inception of the Total Force in the 1990's, the training of the reserve technician took on a whole new concept in the ways that they would be trained. In 1994, it was decided to bring the reserve technician much closer to the same training as that of the Regular Force. During this transition period, it was also decided that there would only be two MOCs involved, the Vehicle Technician R411 (Wheeled) and the Weapons Technician (Land) R421 (Small Arms). In the past, training had been held at

various units throughout Canada, but the Quality Control was restrictive. As CFSEME is the Center of Excellence (CoE) for EME MOC training, all formal reserve technician training would be conducted at the School in Borden as well.

After a member has completed their basic recruit training (BRT) and basic driver training (BDT), they then complete common EME training (CET), which includes Branch history, role of the Branch, supply functions, and many other tasks. Common EME Technical Training (CETT) that includes safety in the workplace, identification and proper use of hand tools and various other equipment would then follow. Both CET and CETT must be completed prior to a reserve member attending either the vehicle or the weapons technical training. With the upcoming implementation of the Land Force Reserve Restructure (LFRR), there will be significant changes in the way that the Reserves are taught. As these changes are only in the preliminary stages, there will be an update as to the future of the EME Reserve in upcoming issues of the EME Journal. The following is a brief, current description of each trade.

Reserve Vehicle Technician R411. Reserve Vehicle Technician training is conducted at Vehicle and Explosives Company, CFSEME, Borden. Here the member begins their Qualification Level 3 (QL3) training, a 3-month course, studying the basics of automotive mechanics, including cooling systems, ignition, electrical and lighting, gas and diesel systems, steering and suspension, brakes, exhaust and emission control, power train, automatic transmissions, inspections and various other systems. Once completed, he/she is now a qualified apprentice. They return to their respective units and begin a formal on-job-training (OJT) programme which is conducted at a regular force unit. Here their knowledge and skills are developed through "hands on" experience. Once the OJT programme is completed and validated, the member returns to CFSEME on a QL5 course (3 months) to further increase their trade knowledge and to confirm what was taught and learned in the past. After successful completion of this training, they are qualified journeymen; much the same as a civilian mechanic. Subsequent trades training they may receive are QL6 supervisor (20 training days) and QL7 manager (42 training days). These two courses are conducted at Regimental Company and are considered common core training for all EME trades, both regular and reserve that will qualify the individual from warrant officer to the rank of chief warrant officer.

Reserve Weapons Technician (Land) R421. The Reserve Weapons Technician (Land) training is conducted at Artisan Company, CFSEME. The training is conducted in a similar manner as that of the Vehicle Technicians. On the QL3 course, the member learns the function of small arms weapons systems (pistols, rifles, machine guns and mortars), ammunition and ballistics, stripping and assembling, and various other weapon equipment used in the Canadian Forces. Again, once completed, the member is now an apprentice and again a formal OJT programme is conducted with the emphasis on "hands on" and the theory of operation. The reservist will again return to CFSEME for their formal QL5 course (3 months) where their skills in troubleshooting problems on weapons are thoroughly tested. After this training, they are considered qualified journeymen. Their next training cycle is a Weapon QL6 Supervisor course of 3 months designed to further develop and broaden their technical knowledge, as well as the common EME training conducted at Regimental Company. The training delves into the certification to fire foreign weapons, examination of armament and artillery pieces, and technical reporting of weapon/ammunition accidents. The final course common to all EME MOCs is the QL7 course qualifying the member to chief warrant officer. [EME Journal, No. 1, 2002]

Annex A - Individual Trade Summaries

This Annex describes the trades that were transferred to RCEME on its formation on 15 May 1944, and the successor or new trades created during and after the Second World War.

Where a trade continued after the Second World War with only minor name changes, the trade has been described as a continuous entity using aka for the changes.

Trades are presented in alphabetical order, and detail the chronology of the trade from its inception until it was amalgamated into another trade, became obsolete, or was assigned to another service or Corps.

The history of each trade is self-sufficient, and where a trade is the successor to another trade, the details of the predecessor trade are included in the chronology of the trade. While repetitive, this allows the removal of a section that includes the complete history of a particular trade.

Each trade summary has been designed to include all the information on the trade, so that it can be extracted as a unit. Information has been duplicated on related trades as necessary.

Some trades (such as the vehicle mechanic) have a long continuous history involving splits and amalgamations. In these cases, a summary of the overall chronology is provided and a reference to the chronology is noted in the trade summary.

The years from 1945 to 1949 incorporated considerable turmoil in the Canadian Army trade structure, as wartime trades were cancelled, amalgamated, and reassigned to different Corps. In 1949, Canadian Army Order 269-1 [CAO 269-1 (1949)] listed all the trades in the Canadian Army, and assigned a Corps that had the primary responsibility for the trade. This list was updated periodically.

NOTE: Staff duties was apparently not a major concern, especially during the war. If you are looking for a specific trade, use the search function. Some trades are listed as “aka” another trade, and sometimes the trade name is reversed in different sources (e.g. “Mechanic, Wireless” or “Wireless Mechanic”). Search for both trades.

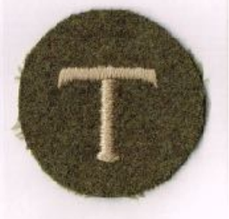
A trades test has been included in this annex for each of the wartime trades. For the trades that continued after the war, the size of the trades standards and specifications precludes their inclusion in this document. Where they have been found, a copy of the specification has been placed on the RCEME Historical Database and on the Internet Archive. See Annex C.

At this time this annex is still being researched and details on some trades will be incomplete.

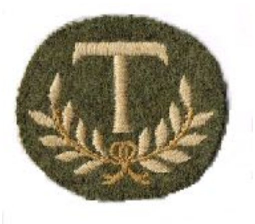
Information sources are noted in [square brackets].

Trades Badges 1944-1956 (The “T” Badges)

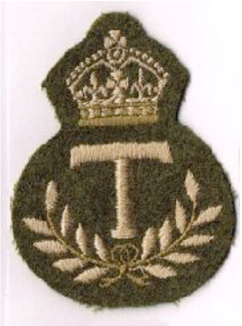
This is not a trades badge reference document. However, where possible, the trades badges worn by each trade have been included in the relevant section in Annex A. Skill at Arms (see sources in Chapter 1) is an excellent reference to the trades badges worn by the Canadian Army before (and after) the formation of RCEME. However, by the time RCEME was formed during the Second World War, most of the individual trades did not have a unique badge, and the soldier wore a single badge indicating that he was a tradesman and the level of his qualification. These were known as the “T” Badges. To save space, the trades badges for the RCEME Second World War trades are portrayed below.



Second World War
Group C Trades Badge
(Courtesy Gord Goddard)

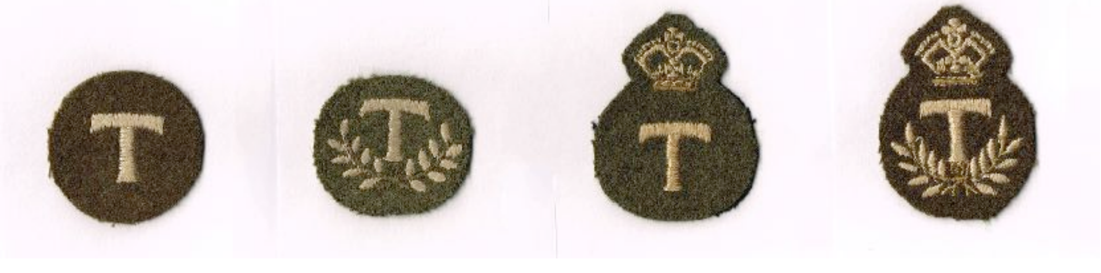


Second World War
Group B Trades Badge
(Courtesy Gord Goddard)



Second World War
Group A Trades Badge
(Courtesy Gord Goddard)

That said, there were many trades that had worn unique badges before the war and up to about 1943. The system was changed often, and the reader is referred to [Skill at Arms] for an account of the many changes. Note also, that many tradesmen continued to wear their earlier badges, and even British trades badges where they applied to



Post Second World War “T” Badges
Group 1, Group 2, Group 3, Group 4
(Courtesy Gord Goddard)

their trade. This was unofficial, but apparently accepted by many units as local commanders sidestepped the regulations.

The “T” badge system continued after the war. With the change from the Groups C-B-A to Groups 1-2-3-4, four badges were needed. The Group 4 badge served as both the artificer badge, and as the Group 4 badge for trades with no artificer.

The individual trades that continued to exist in the postwar army, started receiving unique trades badges in the mid 1950s. A representative badge is included in Annex A, but variations over time and for different uniforms are not included in this document. Gord Goddard has generously scanned badges from his collection (including variations), which have been placed on the RCEME Historical Database. Unless otherwise noted, all badge photos in this document originate from him.

Aircraft Trades - Proposed Reorganization in 1964

LAC File [RG24-C-1-c, Volume 31910, File number: 1200-T3 Army Trades Committee 1964.] contains a proposed reorganization of the RCEME Aircraft Trades. The details are included in Appendix 2 to Annex A to HQ 1200-T3 (Man 3D) dated 16 September 1964, which has been scanned and the text is included below. The committee were in favour of the reorganization, but this was almost the last act of the committee, because the last meeting of the Army Trades Committee was held on 13 November 1964. The committee was dissolved on 23 November 1964.

The 183rd Meeting of the Army Trades Committee on 25 September 1964 was in favour of the trades regrouping as proposed by DEME (below), and approved the designation of obsolescent for the Airplane Technician, Helicopter Technician, Body Repairman, and RCEME Welder trades.

The RCEME Technical Bulletin, Volume 11 No. 2, April 1966 noted that the RCEME aircraft trades were being transferred to the Air Force, and used the old terminology, so the changes were probably never carried out, except for the metals technician.

Aircraft Instrument-Electrical Technician. This is a new trade combining the knowledge and skills required of personnel employed in the servicing and repair of all instrument and electrical equipment and their systems in Army owned aircraft. Job Analysis by the Job Analysis Section D Man and discussion with DEME revealed that the knowledge and skills required by those tradesmen, particularly with the early introduction into the Army of the Voyageur helicopter, was sufficiently different from the knowledge and skills possessed by personnel in the existing trades of Instrument Technician and Electrical Technician to warrant the introduction of the new trade (such a trade had been proposed to DEME when the Army took over the repair of Army owned aircraft several years ago but DEME requested at that time that such a change be deferred pending user experience and further job analysis). Tradesmen will qualify for group 1 and 2 trades pay by attending a course for group 1 and in-job-training and trade test for group 2. They will be capable of servicing and repairing minor faults on all instrument and electrical equipment in all aircraft. At the group 3 level they will qualify by course and will specialize in the repair of all Instrument and electrical equipment and systems either on the Cessna airplane and Nomad helicopter or on the Voyageur helicopter. Results of job evaluation indicate that the requirements at either of the group 3 skill levels warrants the receipt of pay level 3Z. Details of the remustering action and further training required by Instrument Technicians or Electrical Technicians presently employed on the repair of aircraft instruments end electrical systems are contained in paragraph 10, Implementing Instructions, of the specification.

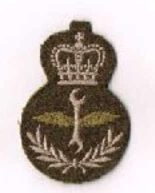
Master Aircraft Instrument-Electrical Technician Group 4. This is a new trade. The reasons for its proposed introduction are similar to those contained in paragraph 1 above. It provides a trade for Master Electrical Technicians and Master Instrument Technicians employed on the repair of complex electrical and instrument equipment and systems in all army aircraft. The trade has been evaluated and warrants pay level 4A. The details of the training required prior to remustering of Master Instrument Technicians and Master Electrical Technicians now so employed are contained in paragraph 10, Implementing Instructions, of the specification.

Aircraft Technician. This is a new trade combining the existing trades of Airplane Technician Groups 1, 2, and 3 and Helicopter Technician Groups 1, 2, and 3. This proposal is a result of job analysis by D Man, user experience by DEME and the pending introduction of the Voyageur helicopter into the Army. The tradesmen will receive a course at Group 1 on the basic knowledge: and skills required for all aircraft used by the Army. At the Group 2 and 3 levels, he will specialize in the repair of the Cessna airplane and Nomad helicopter or the Voyageur helicopter, qualification for group 2 will be by in-job-training and trade test and for group 3 by course. The trade has been evaluated and the results warrant the granting of pay level 3Z either as an Aircraft Technician (Cessna and Nomad) Group 3 or an Aircraft Technician (Voyageur) Group 3. The details of remustering action end retraining required of Airplane Technicians and Helicopter Technicians are contained in paragraph 10, Implementing Instructions, of the specification.

Master Aircraft Technician Group 4. This specification replaces that for Master Aircraft Technician Group 4 dated 1 April 60. The major change in the specification is the addition of the knowledge and skills required to diagnose and repair complex faults in the new Voyageur helicopter in addition to the Nomad helicopter end Cessna airplane previously required of the tradesman. The man management functions and the rank prerequisite have been deleted. The trade has been evaluated and continues to warrant pay level 4A. The details of the training required of tradesmen qualified under the old specification dated 1 April 60 are contained in paragraph 10, Implementing Instructions, of the specification.

Metals Technician. This new trade combines the existing trades of Welder Groups 1, 2 and 3 (dated January 62) and Body Repairman Groups 2 and 3 (dated September 63). Job analysis also revealed that those tradesmen employed on the structural repair of aircraft required special knowledge and skills to satisfactorily perform their duties. Accordingly, at the Group 3 level, the tradesman after attending a common course at Group 3 will continue on a specialized course to qualify him to repair either aircraft or ground equipments. The trade has been evaluated and the results warrant the granting of pay level 3Y, either as a Metals Technician (Ground) Group 3 or a Metals Technician (Air) Group 3. The details of the remustering action and training required of Welders and Body Repairman are contained in paragraph 10, Implementing Instructions, of the specification.

Aircraft Artificer aka Master Aircraft Technician



Aircraft Artificer
Group 4
(Courtesy Gord Goddard)

This is a postwar trade.

At the Army Council meeting on 27 March 1957, the Chief of the General Staff stated that there was a requirement for RCEME aircraft trades to repair army light aircraft and helicopters. Approximately 85 technicians would be required. At the time, it was anticipated that the following RCEME trades were required:

~~Instrument Technician (Air) Group 2 and Group 3~~ (see below)

~~Electrical Technician (Air) Group 2 and Group 3~~ (see below)

Aircraft Artificer Group 4

Aircraft Technician Group 2 and Group 3

~~Helicopter Artificer Group 4~~ (It was decided to have a single Aircraft Artificer trade at the Group 4 level over both the Aircraft and Helicopter Technicians).

Helicopter Technician Group 2 and Group 3

On 31 July 1959, DEME agreed that the small number of Instrument and Electrical Technicians needed until 1964 (15 and 19 respectively) did not support either separate trades or a combined trade. Individuals would be trained to fill the required vacancies and the establishments noted about the required qualifications. The requirement for those two trades was dropped. [RCEME Archives]

The 165th meeting of the Army Trades Committee meeting on 16 October 1959 introduced the Aircraft Artificer Group 4 trade over the Aircraft Technician, Helicopter Technician, and another unnamed trade. [LAC - ATC]

A trade specification for the Aircraft Artificer Group 4 has been placed on the RCEME Historical Database and on the Internet Archive. [RCEME Archives]

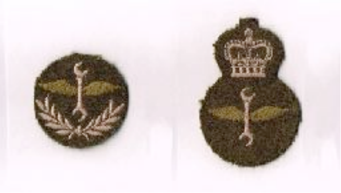
This trade is included in RCEME Technical Bulletin Vol. 6, No.1, February 1961, which listed all RCEME trades and common trades applicable to RCEME and their authorized trade groups in 1960.

On 13 July 1962, the Army Trades Committee agreed to a DEME request dated 27 June 1962 to change the appointment of Artificer to Engineering Technician, change the trade name of Artificer to Master Technician, and reduce the rank prerequisite to "hold the substantive rank of corporal". Nine RCEME trades were involved.

Accordingly the Aircraft Artificer Group 4 was renamed Master Aircraft Technician Group 4.

On Unification, the Master Aircraft Technician trade was transferred to the Air Force and was no longer a RCEME trade.

Airplane (aka Aircraft) Technician



Airplane Technician
Group 2 and Group 3
(Courtesy Gord Goddard)

This is a postwar trade.

The term Aircraft and Airplane seem to be used interchangeably.

At the Army Council meeting on 27 March 1957, the CGS stated that there was a requirement for RCEME aircraft trades to repair army light aircraft and helicopters. Approximately 85 technicians would be required. At the time, it was anticipated that the following RCEME trades were required:

~~Instrument Technician (Air) Group 2 and Group 3~~ (see below)

~~Electrical Technician (Air) Group 2 and Group 3~~ (see below)

Aircraft Artificer Group 4

Aircraft Technician Group 2 and Group 3

~~Helicopter Artificer Group 4~~ (It was decided to have a single Aircraft Artificer trade at the Group 4 level over both the Aircraft and Helicopter Technicians).

Helicopter Technician Group 2 and Group 3

On 31 July 1959, DEME agreed that the small number of Instrument and Electrical Technicians needed until 1964 (15 and 19 respectively) did not support either separate trades or a combined trade. Individuals would be trained to fill the required vacancies and the establishments noted about the required qualifications. The requirement for those two trades was dropped. [RCEME Archives]

The 165th meeting of the Army Trades Committee meeting on 16 October 1959 introduced the Airplane Technician Group 2 and Group 3 trade. [LAC - ATC]

A 1959 specification for the Aircraft Technician Group 2 and Group 3 trade has been found in the [CAMTS]. A copy has been placed on the RCEME Historical Database and on the Internet Archive.

This trade is included in RCEME Technical Bulletin Vol. 6, No.1, February 1961, which listed all RCEME trades and common trades applicable to RCEME and their authorized trade groups in 1960.

In 1963, the Airplane Technician and Helicopter Technician trades were combined into the Aircraft Technician Group 1, Group 2, Group 3 trade. [Skill at Arms]

On Unification, the Aircraft Technician trade was transferred to the Air Force and was no longer a RCEME trade.

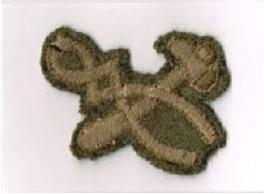
The Ammunition Trades

There is no reference during the Second World War, or in the post war period leading up to Unification that assigns the ammunition examination or ammunition technical trades to RCEME. Up to 1954, the trade is clearly assigned to the RCOC in the Canadian Army Orders. The trade is not included in the RCEME Technical Bulletin, Volume 11 No. 2, April 1966 article listing the changes at Unification.

Since Unification, the Ammunition Technician trade training has been associated with the RCEME School (under its contemporary titles).

The ammunition trades are not included in this reference.

Armament Artificer - General Notes



Up to 1942, the Artificers wore the “pincers and hammer” badge, which had been authorized in 1916. Theoretically, these were replaced by the “T” badges in 1942, but photographs indicate that some artificers continued to wear the older badge.

The notes below are taken from [Trades 1944].

Subcategories:

Armament Artificer (AFV) - replaced by Armament Artificer (Vehicle) about 1943

Armament Artificer (Antiaircraft)

Armament Artificer (Field)

Armament Artificer (Electrical)

Armament Artificer (Instruments Anti-aircraft)

Armament Artificer (Instruments Field)

Armament Artificer (Instruments Coast Artillery)

Armament Artificer (MV) - replaced by Armament Artificer (Vehicle) about 1943

Armament Artificer (~~Radio~~ Radar) - name change in January 1945

Armament Artificer (Vehicle)

Armament Artificer (Wireless)

The Armament Artificer trade had one group only. To qualify for Group A, an Armament Artificer was required to qualify for trades pay by successfully completing a course at the Military College of Science in England, or an equivalent course in Canada.

Candidates for training needed the following qualifications:

Minimum age, 21 years.

Superior craftsman in the basic trade for the appropriate class of Armament Artificer as shown below.

A good general technical knowledge.

Hold the rank of at least corporal for three months previous.

The attributes which were required in a staff sergeant.

Two years technical high school education, or at least two years high school, or equivalent education.

Be capable of directing and instructing men under him.

Before proceeding to the appropriate course at the Military College of Science, or equivalent course in Canada, candidates underwent a probationary period at a selected centre to determine their suitability for training.

Armament Artificers were classified as follows (note that the term Coast Artillery and Coast Defence seem to be synonymous):

Title (noted in reference)	Abbreviated Title	Equipment Dealt With	Basic Trade
Armament Artificer (Armoured Fighting Vehicle) or (AFV) [Trades 1943 and Trades 1944]	Armt. Art. (AFV)	AFVs and their armament	Fitter (MV)
Armament Artificer (Motor Vehicle) or (MV) [Trades 1943]	Armt. Art. (MV)	All motor vehicles except AFV	Fitter (MV)
Armament Artificer (Anti-Aircraft) [Trades 1943 and Trades 1944]	Armt. Art. (AA)	Anti-aircraft armament	Fitter
Armament Artificer (Electrical) [Trades 1943 and Trades 1944]	Armt. Art. (E)	All electrical equipment except wireless and radio	Electrician [Trades 1943] Electrician (Vehicle and Plant) [Trades 1944]
Armament Artificer (Field) [Trades 1943 and Trades 1944]	Armt. Art. (Fd)	Field army and coast defence armaments, excluding anti-aircraft	Fitter
Armament Artificer Instruments (Field) [Trades 1943 and Trades 1944]	Armt. Art. Inst. (Fd)	Instruments, field army	Instrument Mechanic
Armament Artificer Instruments (Coast Artillery) or (Coast Defence) [Trades 1943 and Trades 1944]	Armt. Art. Inst. (CA) or (CD)	Instruments, coast defence	Instrument Mechanic
Armament Artificer Instruments (Anti-aircraft) [Trades 1943 and Trades 1944]	Armt. Art. Inst. (AA)	Instruments, anti-aircraft	Instrument Mechanic

Title (noted in reference)	Abbreviated Title	Equipment Dealt With	Basic Trade
Armament Artificer (Wireless) [Trades 1943 and Trades 1944]	Armt. Art. (W)	Wireless and signal equipment excluding radio	~~Wireless Mechanic~~ [Trades 1943 and Trades 1944] Telecommunication Mechanic [Trades 1944]
Armament Artificer (~~Radio~~ Radar) [Trades 1943 and Trades 1944]	Armt. Art. (R)	Radio equipment other than that used for communication	~~Wireless Mechanic~~ ~~Radio Mechanic~~ [Trades 1943 and Trades 1944] Telecommunication Mechanic [Trades 1944]
Armament Artificer (Vehicle) [Trades 1944] - replaced Armament Artificer (MV) and (AFV)	Armt. Art. (Veh)	All A and B vehicles	Fitter (MV) (AFV) Vehicle Mechanic (MV) (AFV)

[Trades 1943] and [Trades 1944]

Armament Artificer (Group 4 - 1955)

The 146th meeting of the Army Trades Committee on 4 August 1955 combined the Armament Artificer (Anti-aircraft) Group 4 trade and the Armament Artificer (Field) Group 4 trade into the Armament Artificer Group 4 trade. A trade specification for the Armament Artificer Group 4 trade has been placed on the RCEME Historical Database and on the Internet Archive.

There is an LAC file on the trade. [LAC Reference: Policy of Training and Qualifications - Artificers 1951-1961. RG24-C-1-c, Volume/box number 31348, File number 3202-A15.] It contains the 1955 trade standard for Armament Artificer Group 4, which has been placed on the RCEME Historical Database and on the Internet Archive.

The 165th meeting of the Army Trades Committee meeting on 16 October 1959 introduced the Weapons Artificer trade as a Group 4 trade replacing the Small Arms Artificer and Armament Artificer trades. A memo HQ 3667-1 dated 12 August 1960 authorized the trade. [LAC - ATC] The two former trades were combined and the name changed to more accurately describe the trade duties.

See the Weapons Artificer trade.

Armament Artificer (AFV)

In the mid 1930s, there were three types of artificer: the Armament Artificer (Fitter), Armament Artificer (Instruments), and Artificer Artillery. With the influx of new weapons and vehicles, the workload became too great and too varied, and new trades were created to repair the new equipment. [Skill at Arms]

The Armament Artificer (AFV) was an RCOC trade created about 1943 to reduce the workload of the Armament Artificer (Fitter). He repaired tanks and other heavy tracked vehicles and their associated equipment. It was a trade group A, based on the Fitter (MV) trade, and a course at the Military College of Science. The minimum rank was a staff sergeant. It was a companion trade to the Armament Artificer (MV). [Skill at Arms]

The Armament Artificer (AFV) trade is listed in [Trades 1943].

When RCEME was created, [CARO 4230] transferred all RCOC Armament Artificers (AFV) to RCEME.

When RCEME was created, the Armament Artificer (AFV) trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

A CMHQ Sub Committee on RCEME trades on 3 August 1944 recommended that the Armament Artificer (AFV) and Armament Artificer (MV) trades be combined into the Armament Artificer (Vehicle) trade. All members of the former trades were considered qualified for the new trade. [LAC - Policy - Training of Tradesmen, RCEME]

The Armament Artificer (AFV) is not listed in [Trades 1944]. The Armament Artificer (Vehicle) trade is included in [Trades 1944].

During the Second World War, Armament Artificers (AFV) could be found in all lines of RCEME units that repaired tanks.

No details of a trades test, or content of the MCS course has been found.

See Armament Artificer (Vehicle).

Armament Artificer (Anti-aircraft)

In the mid 1930s, there were three types of artificer: the Armament Artificer (Fitter), Armament Artificer (Instruments), and Artificer Artillery. With the influx of new weapons and vehicles, the workload became too great and too varied, and new trades were created to repair the new equipment. [Skill at Arms]

The Armament Artificer (AA) was an RCOC trade that replaced the Armament Artificer (Fitter) about 1943, and that repaired anti-aircraft guns and their associated equipment. It was a trade group A, based on the fitter and a course at the Military College of Science. the minimum rank was a staff sergeant. [Trades 1944]

When RCEME was created, [CARO 4230] transferred all RCOC Armament Artificers (AA) to RCEME.

When RCEME was created, the Armament Artificer (Anti-aircraft) trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] lists this trade as applicable to RCEME.

During the Second World War, Armament Artificers (AA) could be found in the anti-aircraft workshops and in third and fourth line RCEME units.

No details of a trades test, or content of the MCS course has been found.

[CARO 6579 (1946)] reclassified the Armament Artificer (Anti-aircraft) trade as a Group 4 trade.

[CAO 269-1 (1947)] confirmed the Armament Artificer (Anti-aircraft) trade as a Group 4 trade.

[CAO 269-1 (1949)] confirmed the Armament Artificer (Anti-aircraft) as a Group 4 trade assigned to RCEME.

[CAO 269-1 (1950)] listed the Armament Artificer (Anti-aircraft) as a Group 4 trade assigned to RCEME.

[CAO 269-1 (1952)] listed the Armament Artificer (Anti-aircraft) as a Group 4 trade assigned to RCEME.

The 146th meeting of the Army Trades Committee on 4 August 1955 combined the Armament Artificer (Anti-aircraft) Group 4 trade and the Armament Artificer (Field) Group 4 trade into the Armament Artificer Group 4 trade. [LAC - ATC] A trade specification for the Armament Artificer Group 4 trade has been placed on the RCEME Historical Database and on the Internet Archive.

See the Armament Artificer Group 4 trade.

Armament Artificer (Coast Defence)

In the mid 1930s, there were three types of artificer: the Armament Artificer (Fitter), Armament Artificer (Instruments), and Artificer Artillery. With the influx of new weapons and vehicles, the workload became too great and too varied, and new trades were created to repair the new equipment. [Skill at Arms]

The origin of the Armament Artificer (Coast Defence) is uncertain at this time. It was a trade group A, probably based on the fitter and a course at the Military College of Science. the minimum rank was a staff sergeant. It did not exist outside Canada.

When RCEME was created, [CARO 4230] transferred all RCOC Armament Artificers (Coast Defence) to RCEME.

When RCEME was created, the Armament Artificer (Coast Defence) trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] does not list the Armament Artificer (Coast Defence).

[Skill at Arms] claims that the Armament Artificer (Coast Artillery) was created in 1946. This does not agree with other references.

[CARO 6579 (1946)] reclassified the Armament Artificer (Coast Defence) trade as a Group 4 trade.

[CAO 269-1 (1947)] confirmed the Armament Artificer (Coast Defence) trade as a Group 4 trade.

[CAO 269-1 (1949)] confirmed the Armament Artificer (Coast Defence) trade as a Group 4 trade assigned to RCEME.

[CAO 269-1 (1950)] listed the Armament Artificer (Coast Defence) as a Group 4 trade assigned to RCEME.

[CAO 269-1 (1952)] listed the Armament Artificer (Coast Defence) as a Group 4 trade assigned to RCEME.

With the reorganization of the Armed Forces following the Kennedy Commission, at a Chief of the General Staff conference with the General Officers Commanding in March 1954, it was agreed that the requirement for coast artillery no longer existed. The responsibility for coast defence was handed over to the RCAF and RCN, and all coast artillery batteries were disbanded, although one harbour defence battery remained on each coast for a short time. Most activities were completed by the end of the year, and Canada was no longer in the coast defence business. The trade should not have lasted much beyond that time.

Armament Artificer (Electrical)

In the mid 1930s, there were three types of artificer: the Armament Artificer (Fitter), Armament Artificer (Instruments), and Artificer Artillery. With the influx of new weapons and vehicles, the workload became too great and too varied, and new trades were created to repair the new equipment. [Skill at Arms]

The Armament Artificer (Electrical) was an RCOC trade created about 1943 to repair all types of electrical equipment in vehicles and buildings, except radios. Equipment included lighting systems, ignition systems, generators, chargers, circuit breakers, etc. It was a trade Group A, based on the Electrician trade and a course at the Military College of Science. The minimum rank was a staff sergeant. [Skill at Arms]

When RCEME was created, [CARO 4230] transferred all RCOC Armament Artificers (Electrical) to RCEME.

When RCEME was created, the Armament Artificer (Electrical) trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] lists the Armament Artificer (Electrical) trade as assigned to RCEME and based on the Electrician trade. However, [Trades 1944 AL 1] based the Armament Artificer (Electrical) trade on the Electrician (Vehicle and Plant) trade, which had replaced the Electrician trade.

During the Second World War, Armament Artificers (Electrical) could be found in third and fourth line RCEME workshops.

No details of a trades test, or content of the MCS course has been found.

[CARO 6579 (1946)] reclassified the Armament Artificer (Electrical) as a Group 4 trade.

[CAO 269-1 (1947)] renamed the Armament Artificer (Electrical) trade as Electrical Artificer and confirmed it as a Group 4 trade.

See the Electrical Artificer trade.

Armament Artificer (Field)

In the mid 1930s, there were three types of artificer: the Armament Artificer (Fitter), Armament Artificer (Instruments), and Artificer Artillery. With the influx of new weapons and vehicles, the workload became too great and too varied, and new trades were created to repair the new equipment. [Skill at Arms]

The Armament Artificer (Field) was an RCOC trade that replaced the Armament Artificer (Fitter) about 1943, and that repaired field artillery and associated equipment. It was a trade group A, based on the Fitter and a course at the Military College of Science. The minimum rank was a staff sergeant. [Skill at Arms]

When RCEME was created, [CARO 4230] transferred all RCOC Armament Artificers (Field) to RCEME.

When RCEME was created, the Armament Artificer (Field) trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] lists the Armament Artificer (Field) trade as applicable to RCEME.

During the Second World War, Armament Artificers (Field) could be found in first, second, third, and fourth line RCEME units.

No details of a trades test, or content of the MCS course has been found.

[CARO 6579 (1946)] reclassified the Armament Artificer (Field) trade as a Group 4 trade.

[CAO 269-1 (1947)] confirmed the Armament Artificer (Field) trade as a Group 4 trade.

[CAO 269-1 (1949)] confirmed the Armament Artificer (Field) trade as a Group 4 trade assigned to RCEME.

[CAO 269-1 (1950)] listed the Armament Artificer (Field) as a Group 4 trade assigned to RCEME.

[CAO 269-1 (1952)] listed the Armament Artificer (Field) as a Group 4 trade assigned to RCEME.

The 146th meeting of the Army Trades Committee on 4 August 1955 combined the Armament Artificer (Anti-aircraft) Group 4 trade and the Armament Artificer (Field) Group 4 trade into the Armament Artificer Group 4 trade. [LAC - ATC] A trade specification for the Armament Artificer Group 4 trade has been placed on the RCEME Historical Database and on the Internet Archive.

See the Armament Artificer Group 4 trade.

Armament Artificer (Fitter) - Obsolescent in 1944

In the mid 1930s, there were three types of artificer: the Armament Artificer (Fitter), Armament Artificer (Instruments), and Artificer Artillery. With the influx of new weapons and vehicles, the workload became too great and too varied, and new trades were created to repair the new equipment. [Skill at Arms]

The Armament Artificer (Fitter) was split into the Armament Artificer (Field), Armament Artificer (AFV) and Armament Artificer (MV) trades about 1943.

When RCEME was created, [CARO 4230] transferred the obsolescent trade of RCOC Armament Artificer (Fitter) to RCEME.

[Trades 1944] does not list the Armament Artificer (Fitter), although the three split trades are listed.

No details of a trades test, or content of the MCS course has been found.

See Armament Artificer (Field), Armament Artificer (AFV) and Armament Artificer (MV) trades for successors to this trade.

Armament Artificer (Instruments) - Obsolescent in 1944

In the mid 1930s, there were three types of artificer: the Armament Artificer (Fitter), Armament Artificer (Instruments), and Artificer Artillery. With the influx of new weapons and vehicles, the workload became too great and too varied, and new trades were created to repair the new equipment. [Skill at Arms]

The Armament Artificer Instruments trade was split into the Armament Artificer Instruments (AA), Armament Artificer Instruments (Field), and possibly the Armament Artificer Instruments (CD) trade about 1943.

When RCEME was created, [CARO 4230] transferred the obsolescent trade of RCOC Armament Artificer (Instruments) to RCEME.

[Trades 1944] does not list the Armament Artificer (Instruments), although the three split trades are listed.

No details of a trades test, or content of the MCS course has been found.

See the Instrument Artificer (AA), Instrument Artificer (Coast Defence), and Instrument Artificer (Field) trades for further information.

Armament Artificer Instruments (Anti-aircraft)

In the mid 1930s, there were three types of artificer: the Armament Artificer (Fitter), Armament Artificer (Instruments), and Artificer Artillery. With the influx of new weapons and vehicles, the workload became too great and too varied, and new trades were created to repair the new equipment. [Skill at Arms]

The Armament Artificer Instruments (AA) was an RCOC trade that was split from the Armament Artificer (Instruments) about 1943, and that repaired the instruments associated with anti-aircraft guns. It was a trade group A, based on the Instrument Mechanic and a course at the Military College of Science. The minimum rank was a staff sergeant. [Skill at Arms]

When RCEME was created, [CARO 4230] transferred all RCOC Armament Artificers Instruments (AA) to RCEME.

When RCEME was created, the Armament Artificer Instruments (Anti-aircraft) trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] lists this trade as applicable to RCEME.

During the Second World War, Armament Artificers Instruments (AA) could be found in the Anti-aircraft workshops and in third and fourth line RCEME units.

No details of a trades test, or content of the MCS course has been found.

[CARO 6579 (1946)] reclassified the Armament Artificer Instruments (Anti-aircraft) trade as a Group 4 trade.

[CAO 269-1 (1947)] renamed the trade as Instrument Artificer (Anti-aircraft), effective 8 April 1947, and confirmed it as a Group 4 trade.

See the Instrument Artificer (Anti-aircraft) trade.

Armament Artificer Instruments (Coast Defence)

In the mid 1930s, there were three types of artificer: the Armament Artificer (Fitter), Armament Artificer (Instruments), and Artificer Artillery. With the influx of new weapons and vehicles, the workload became too great and too varied, and new trades were created to repair the new equipment. [Skill at Arms]

The Armament Artificer Instruments (Coast Defence) was an RCOC trade that was split from the Armament Artificer (Instruments) about 1943, and that repaired the instruments associated with coast artillery. It was a trade group A, based on the Instrument Mechanic and a course at the Military College of Science. The minimum rank was a staff sergeant. [Skill at Arms]

Some references refer to the trade as Armament Artificer Instruments (Coast Artillery).

When RCEME was created, [CARO 4230] transferred all RCOC Armament Artificers Instruments (Coast Defence) to RCEME.

When RCEME was created, the Armament Artificer Instruments (Coast Defence) trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] lists the Armament Artificer Instruments (Coast Defence) trade as applicable to RCEME.

During the Second World War, Armament Artificers Instruments (Coast Defence) could be found in RCEME workshops that supported coast defence installations in Canada.

No details of a trades test, or content of the MCS course has been found.

[CARO 6579 (1946)] reclassified the Armament Artificer Instruments (Coast Defence) trade as a Group 4 trade.

[CAO 269-1 (1947)] renamed the trade as Instrument Artificer (Coast Defence), effective 8 April 1947, and confirmed it as a Group 4 trade.

See the Instrument Artificer (Coast Defence) trade.

Armament Artificer Instruments (Field)

In the mid 1930s, there were three types of artificer: the Armament Artificer (Fitter), Armament Artificer (Instruments), and Artificer Artillery. With the influx of new weapons and vehicles, the workload became too great and too varied, and new trades were created to repair the new equipment. [Skill at Arms]

The Armament Artificer Instruments (Field) was an RCOC trade that was split from the Armament Artificer (Instruments) about 1943, and that repaired the instruments associated with field artillery. It was a trade group A, based on the Instrument Mechanic and a course at the Military College of Science. The minimum rank was a staff sergeant. [Skill at Arms]

When RCEME was created, [CARO 4230] transferred all RCOC Armament Artificers Instruments (Field) to RCEME.

When RCEME was created, the Armament Artificer Instruments (Field) trade wore the "T" badge relevant to the tradesman's level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] lists the Armament Artificer Instruments (Field) trade as applicable to RCEME.

During the Second World War, Armament Artificers Instruments (Field) could be found in second, third, and fourth line RCEME units.

No details of a trades test, or content of the MCS course has been found.

[CARO 6579 (1946)] reclassified the Armament Artificer Instruments (Field) trade as a Group 4 trade.

[CAO 269-1 (1947)] renamed the trade as Instrument Artificer (Field), effective 8 April 1947, and confirmed it as a Group 4 trade assigned to RCEME.

See the Instrument Artificer (Field) trade.

Armament Artificer (MV)

In the mid 1930s, there were three types of artificer: the Armament Artificer (Fitter), Armament Artificer (Instruments), and Artificer Artillery. With the influx of new weapons and vehicles, the workload became too great and too varied, and new trades were created to repair the new equipment. [Skill at Arms]

The Armament Artificer (MV) was created about 1943 to reduce the workload of the Armament Artificer (Fitter) and to repair vehicles and associated equipment. It was a trade group A, based on the Fitter (later Vehicle Mechanic) trade and a course at the Military College of Science. The minimum rank was a staff sergeant. The MV stands for “motor vehicle” but it was understood that it applied to wheeled vehicles and light tracked vehicles such as the universal carrier. [Skill at Arms]

[Trades 1943] lists the Armament Artificer (MV) trade.

When RCEME was created, [CARO 4230] transferred all RCOC Armament Artificers (MV) to RCEME.

When RCEME was created, the Armament Artificer (MV) trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

A CMHQ Sub Committee on RCEME trades on 3 August 1944 recommended that the Armament Artificer (AFV) and Armament Artificer (MV) trades be combined into the Armament Artificer (Vehicle) trade. All members of the former trades were considered qualified for the new trade. [LAC - Policy - Training of Tradesmen, RCEME]

[Trades 1944] does not list the Armament Artificer (MV) trade. The Armament Artificer (Vehicle) trade is included in [Trades 1944].

During the Second World War, Armament Artificers (MV) could be found in all lines of RCEME units.

No details of a trades test, or content of the MCS course has been found.

See Armament Artificer (Vehicle).

Armament Artificer (Radio/Radar)

In the mid 1930s, there were three types of artificer: the Armament Artificer (Fitter), Armament Artificer (Instruments), and Artificer Artillery. With the influx of new weapons and vehicles, the workload became too great and too varied, and new trades were created to repair the new equipment. [Skill at Arms]

The Armament Artificer (Radio, later renamed to Radar [Trades 1944 AL1]) was created about 1943 to repair radio equipment other than that used for communication. It was a trade group A, based on the Wireless Mechanic (later Telecommunications Mechanic [Trades 1944 AL 1]) trade and a course at the Military College of Science. The minimum rank was a staff sergeant. [Skill at Arms]

When RCEME was created, [CARO 4230] transferred all RCOC Armament Artificers (Radio) to RCEME.

When RCEME was created, the Armament Artificer (Radio or Radar) trade wore the "T" badge relevant to the tradesman's level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] lists the Armament Artificer (Radio) trade assigned to RCEME.

[Trades 1944 AL1] renamed the Armament Artificer (Radio) trade to Armament Artificer (Radar) assigned to RCEME.

During the Second World War, Armament Artificers (Radar) could be found in specialist second line workshops and in third and fourth line RCEME workshops.

No details of a trades test, or content of the MCS course has been found.

[CARO 6579 (1946)] combined the five Telecommunication Mechanic sub-trades above, and the Electrician Radar, Electrician Signals, Armament Artificer (Radar), Armament Artificer (Wireless), Instrument Mechanic (Signals) into a single Telecommunications Mechanic Group 1, Group 2, Group 3, Group 4 trade.

CAO 269-1 (1947)] created a new trade of Telecommunication Artificer Group 4 from the Telecommunication Mechanic Group 4.

[CAO 269-1 (1949)] split the Telecommunication Artificer Group 4 into the Telecommunication Artificer (Radar) Group 4 trade and Telecommunication Artificer Wireless Group 4 trades, both assigned to RCEME.

See the Telecommunication Artificer (Radar) trade.

Armament Artificer (Vehicle)

The Armament Artificer (MV) had been created about 1943 to reduce the workload of the Armament Artificer (Fitter) and to repair vehicles and associated equipment. It was a trade group A, based on the Fitter (later Fitter (MV) and later Vehicle Mechanic (MV)) trade and a course at the Military College of Science. It was a companion trade to the Armament Artificer (AFV). The minimum rank was a staff sergeant. [CARO 4230] transferred all Armament Artificers (MV) to RCEME when RCEME was created. Armament Artificers (MV) could be found in all lines of RCEME units.

The Armament Artificer (AFV) had been created about 1943 to reduce the workload of the Armament Artificer (Fitter) and to repair tanks and other heavy tracked vehicles and their associated equipment. It was a trade group A, based on the Fitter (later Fitter (AFV) and later Vehicle Mechanic (AFV)) trade and a course at the Military College of Science. The minimum rank was a staff sergeant. It was a companion trade to the Armament Artificer (MV). [CARO 4230] transferred all Armament Artificers (AFV) to RCEME when RCEME was created. Armament Artificers (AFV) could be found in all lines of RCEME units that repaired tanks.

When RCEME was created, [CARO 4230] transferred the Armament Artificer (MV) and Armament Artificer (AFV) trades to RCEME.

When RCEME was created, the Armament Artificer (Vehicle) trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

A CMHQ Sub Committee on RCEME trades on 3 August 1944 recommended that the Armament Artificer (AFV) and Armament Artificer (MV) trades be combined into the Armament Artificer (Vehicle) trade. All members of the former trades were considered qualified for the new trade. [LAC - Policy - Training of Tradesmen, RCEME]

[Trades 1944] lists the Armament Artificer (Vehicle) trade as assigned to RCEME. It was based on the Fitter (MV) and Fitter (AFV) trades. [Trades 1944 AL 1] converted those trades to Vehicle Mechanic (MV) (AFV).

No details of a trades test, or content of the MCS course has been found.

[CARO 6579 (1946)] combined the Armament Artificer (Vehicle) and Armament Artificer (Vehicle) (MV) trades into the Armament Artificer (Vehicle) trades. It is probable that the AFV designation was omitted from the first name.

[CARO 6579 (1946)] reclassified the Armament Artificer (Vehicle) trade as a Group 4 trade.

[CAO 269-1 (1947)] renamed the Armament Artificer (Vehicle) trade as Vehicle Artificer, effective 8 April 1947, and confirmed it as a Group 4 trade.

See the Vehicle Artificer trade.

Armament Artificer (Wireless)

In the mid 1930s, there were three types of artificer: the Armament Artificer (Fitter), Armament Artificer (Instruments), and Artificer Artillery. With the influx of new weapons and vehicles, the workload became too great and too varied, and new trades were created to repair the new equipment. [Skill at Arms]

The Armament Artificer (Wireless) was created about 1941 to repair wireless and signal equipment excluding radio (radar). It was a trade group A, based on the Wireless Mechanic (later Telecommunications Mechanic [Trades 1944 AL1]) trade and a course at the Military College of Science. The minimum rank was a staff sergeant. [Skill at Arms]

When RCEME was created, [CARO 4230] transferred all RCOC Armament Artificers (Wireless) to RCEME.

When RCEME was created, the Armament Artificer (Wireless

) trade wore the "T" badge relevant to the tradesman's level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] lists this trade as applicable to RCEME.

During the Second World War, Armament Artificers (Wireless) could be found in second, third, and fourth line RCEME workshops.

[CARO 6579 (1946)] combined the five Telecommunication Mechanic sub-trades above, and the Electrician Radar, Electrician Signals, Armament Artificer (Radar), Armament Artificer (Wireless), Instrument Mechanic (Signals) into a single Telecommunications Mechanic Group 1, Group 2, Group 3, Group 4 trade.

CAO 269-1 (1947)] created a new trade of Telecommunication Artificer Group 4 from the Telecommunication Mechanic Group 4.

[CAO 269-1 (1949)] split the Telecommunication Artificer Group 4 into the Telecommunication Artificer (Radar) Group 4 trade and Telecommunication Artificer (Wireless) Group 4 trades, both assigned to RCEME.

Se the Telecommunication Artificer (Wireless) trade.

Armourer

The Armourer trade was established before the First World War and was originally open to the RCOC. When RCEME was created, the Armourer trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges). Prior to 1942, the trade had worn the “pincers and hammer” badge worn by the Artificer trade.

When RCEME was created, [CARO 4230] transferred all RCOC Armourers to RCEME.

[Trades 1944] lists the Armourer trade as applicable to RCEME.

During the Second World War, RCEME armourers could be found embedded in combat arms units, and in first, second, third, and fourth line RCEME units.

The trade had three Groups: C, B, and A.

[CARO 6579 (1946)] reclassified the Armourer trade as a Group 2, Group 3 trade. The Fitter Group 1 probably served as the Group 1 for the Armourer trade.

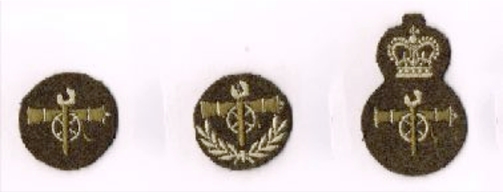
[CAO 269-1 (1947)] reclassified the Armourer trade as a Group 1, Group 2, Group 3 trade. This could be a misprint, because the Fitter Group 1 existed and probably served as a Group 1 Armourer (see below).

[CAO 269-1 (1949)] confirmed the Armourer trade as a Group 2, Group 3 trade assigned to RCEME. The Fitter Group 1 served as the Group 1 for the Armourer trade.

[CAO 269-1 (1950)] listed the Armourer trade as a Group 2, Group 3 trade assigned to RCEME. The Fitter Group 1 trade served as the Armourer Group 1 trade [RCEME ARCHIVES - Fitter Training General].

The 119th meeting of the Army Trades Committee on 6 April 1951 approved the Armourer trade as a Group 1, Group 2, Group 3 trade. Previously, the Fitter Group 1 trade had served as the Armourer Group 1 trade. [LAC-ATC]

[CAO 269-1 (1952)] expanded the Armourer trade to a Group 1, Group 2, Group 3 trade assigned to RCEME.



Armourer
Group 1, Group 2, Group 3
(Courtesy Gord Goddard)

In the 1950s, the Armourer wore the Weapons Technician badge. [Skill at Arms]

There is an LAC file on the Armourer/Weapons Technician [Policy of Training and Qualifications - Weapons Technician. 1954-1958. RG24-C-1-c, Volume/box number 31369, File number 3202-W8.] It contains the trade standards for the

Armourer Group 1 (July 1956) and Armourer Group 3 (October 1957). Copies of these trade standards have been placed on the RCEME Historical Database and on the Internet Archive.

In 1960, the Armourer trade became part of the Weapon Technician trade and all armourers were converted to that trade. [Weapons Technician Group 1-3 trade standard, April 1960]

See the Weapons Technician trade.

Armourer Trade Test in 1944 [Trades 1944]

The following qualifications had to be ascertained by practical work together with both oral and written tests in accordance with instructions contained in Section II, Instructions Regarding Trade Tests and Trade Testing, 1944. Before being tested for Group A, a candidate had to have been classified as Group B for not less than six months, and for Group B had to have been classified Group C for not less than six months.

The trade had three levels: Group C, Group B, and Group A. To qualify for Group C, the candidate had to:

> Qualify as a Fitter Group C **less** the following sections in para 1 of the Fitter trade:
>
> > To mark off and chip a through keyway 1-inch wide, 1-inch deep in a piece of rolled steel bar 1-inch to 2-inch diameter and: 2-inch long to within an accuracy of-inch No file to be used. Nominal time 2 hours
> >
> > To scrape a suitably prepared white metal half-bearing to a shaft, taking a nominal time of 1 hr to complete.
> >
> > Be able to carry out simple woodworking repairs to rifle stocks,
>
> Be able to do simple brazing.
>
> Be able to forge the mainspring of a pistol, revolver or similar type of spring, and complete manufacture by filing, hardening, tempering and fitting to mechanism.
>
> Be able to prepare and use soldering irons and have a general knowledge of fluxes required for various metals.
>
> Be able to use efficiently all tools and equipment supplied to armourers in district armourers shops, or in the field, including the Enfield rest or equivalent field rest.
>
> Be able to do oil blacking, case hardening, polishing and painting.
>
> Be able to maintain and repair bicycles.
>
> Be able to repair and adjust instruments within the scale of authorized repairs by armourers.
>
> Have a fair knowledge of the packing of arms and the chests available for snail arms and machine guns.
>
> Have a thorough knowledge of the principles of the various mechanisms an armourer is called upon to service.

Have a thorough knowledge of the regulations affecting armourers, including Instructions for armourers with supplements OERs, EMERs, routine orders, reports and indents.

To qualify Group B, the candidate, in addition to the requirements for Group C, had to:

Have a thorough knowledge of the mechanism of small arms and machine guns, including barrel, viewing and action assemblies.

Be able to fit a new fore-end to a rifle.

Be able to do lapping of barrels and browning of arms.

Be able to make minor adjustments for accuracy to small arms and machine guns on a testing range in conjunction with the Enfield rest.

Be able to do minor inspections with gauges as issued to base workshops and to armourers in units respectively.

Be able to make all repairs to bicycles, including wheel building and brazing a tube joint of a bicycle frame.

Have a thorough knowledge of checking, packing and storing of small arms, machine, guns and mountings.

Be able to do minor inspections with gauges as issued to workshops and to armourers in units respectively.

Be able to make all repairs to bicycles, including wheel building and brazing a tube Joint of a bicycle frame#

Have a thorough knowledge of chocking, packing and storing of small arms, machine, guns and mountings.

Have a thorough knowledge of schedules of spare parts and accessories including channels and sources of supply and understand thoroughly the paper work involved.

To qualify Group A, the candidate, in addition to the requirements for Group A and Group B, must

Have an elementary knowledge of the components and mechanism of 2-pounder and/or 6-pounder guns as used in the tank and A/T roles.

Have a thorough knowledge of the mechanism, accessories and equipment of all the small arms, machine guns, mountings (land, anti-aircraft and armoured fighting vehicle and training equipment as applicable) which an armourer has to service.

Be able to make all tests and adjustments, including zeroing, to small arms and machine guns.

Be able to make complete inspections with gauges as issued to examiners•

Be able to read any ordinary blueprint and make a properly-dimensioned sketch of any part which he has to make.

Have initiative, be capable of working independently, instructing junior armourers and of carrying out the duties of an inspecting armourer.

Bandsman (all classes)

[Trades 1944] lists the Bandsman trade as applicable to all Corps.

[CARO 4230] does not list the Bandsman trade.

During the Second World War, no Bandsmen have been found in a RCEME unit establishment.

[CARO 6579 (1946)] reclassified the Bandsman trade as a Group 1, Group 2 trade.

[CAO 269-1 (1947)] confirmed the Bandsman trade as a Group 1, Group 2 trade.

[CAO 269-1 (1949)] confirmed the Bandsman trade as open to all Corps.

[CAO 269-1 (1950)] listed the Bandsman trade as a Group 1, Group 2, Group 3 trade open to all Corps.

[CAO 269-1 (1952)] listed the Bandsman trade as a Group 1, Group 2, Group 3 trade open to all Corps.

This trade is included in RCEME Technical Bulletin Vol. 6, No.1, February 1961, which listed all RCEME trades and common trades applicable to RCEME and their authorized trade groups in 1960.

The Bandsman trade is not being followed up at this time.

Bandsman Trade Test in 1944 [Trades 1944]

The trade had one group: C. To qualify for Group C, the candidate had to:

> Be able to give a fair instrumental rendition at sight of band music consisting of marches and light concert music written in the most commonly used keys, not more than two sharps or five flats for band.
>
> Have a thorough knowledge of the Major Scale of C, G, D, F, B^{b}, E^{b}, A^{b}, D^{b}.
>
> Have a thorough knowledge of musical terms in general, tempi indications, time signatures and repeat and nuance signs.
>
> Have a thorough knowledge of the care and maintenance of band instruments.

Blacksmith

When RCEME was created, the Blacksmith trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

When RCEME was created, [CARO 4230] transferred to RCEME all RCOC Blacksmiths.

When RCEME was created, [CARO 4230] transferred to RCEME any RCASC Blacksmiths who were in units that were converted to RCEME.

[CARO 4431] amended [CARO 4230] to transfer to RCEME only those RCOC and RCASC Blacksmiths who were in units that were converted to RCEME.

[Trades 1944] listed the Blacksmith trade as open to the RCE, RCASC, RCOC, and CFC (Canadian Forestry Corps).

During the Second World War, Blacksmiths could be found in second, third, and fourth line RCEME units.

The Blacksmith trade was initially a Group B trade, and was expanded to include Group C when the Hammerman trade was incorporated into the Blacksmith trade as Group C.

[CARO 6579 (1946)] reclassified the Blacksmith trade as a Group 1, Group 2 trade.

[CAO 269-1 (1947)] confirmed the Blacksmith trade as a Group 1, Group 2 trade.

[CAO 269-1 (1949)] does not list the Blacksmith trade, and it is presumed discontinued before that time.

RCE Blacksmiths were discontinued in 1947 and incorporated into the Welder trade, When the RCE Welders were made obsolete in 1953, the RCE Blacksmith trade was reinstated [Skill at Arms].

In 1957, the trades specifications for the RCE Blacksmith and RCEME Welder were compared and found to be almost identical, although the emphasis placed on aspects of the two trades in each corps varied. It was proposed to have a combined Blacksmith-Welder Group 1, Group 2, Group 3 trade, open to both Corps. [RCEME Archives]

There is no evidence that the RCEME Blacksmiths were reinstated.

Blacksmith Trade Test in 1944 [Trades 1944]

The trade had two levels: Group C and Group B. To qualify for Group C, the candidate had to:

> Be able to use efficiently and keep in good condition, the tools and equipment used in his trade.
>
> Be able to set up the different fires using coke and bituminous coals; to produce a slow or rapid heat; to bank a fire, to operate a forge and blower; to use the Hardie hole (for cutting and forming tools) and the Pritchel hole in the anvil; to act as a striker; to make his own hand tools and such articles as chains, chain hooks, brackets, clips and clevis; to true up work, to upset, to forge, to punch, to case

harden, to temper, to use colour chart, to anneal and to read and make simple dimensioned sketches.

Have a knowledge of the types of forges and blower systems and the uses of reducing and oxidizing fires.

To qualify for Group B, the candidate, in addition to the requirements for Group C, had to:

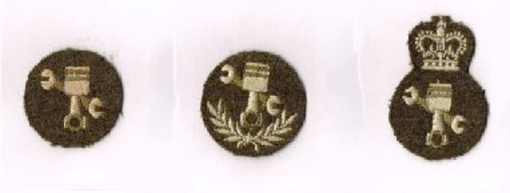
Be able to use properly, an oxyacetylene torch for brazing, welding, and cutting, and be able to solder.

Be able to distinguish between and use fluxes, to make any kind of weld used in the trade in iron or mild steel; to make and temper a spring leaf for a vehicle; to form eyes in a spring leaf; to make time and material estimates of any job that concerns him; to operate a blacksmith’s shop.

Have a knowledge of the properties of iron and steel and be familiar with their working temperature ranges in so far as they concern a blacksmith.

Be able to use the English and Metric systems and be able to convert measurements from one to the other.

Body Repairman aka Panel Beater (Body Repairman) aka Body Repairman (Body Builder) and others…



Vehicle Mechanic
Group 1, Group 2, Group 3
(Courtesy Gord Goddard)

The Vehicle Mechanic badges were common to the Group 1, Group 2, and Group 3 levels of the Vehicle Mechanic (Tracked), Vehicle Mechanic (Wheeled), Body Repairman, Tire Repairman, and Welder. The Vehicle Artificer was the Group 4 level. [Skill at Arms]

NOTE: consistency of nomenclature on this trade is virtually non-existent. It was originally a combination of the Body Builder (Metal) and the Panel Beater trades, and was open to the RCASC and RCOC. It can be found in the literature as Body Repairman (Body Builder), Panel Beater, Panel Beater (Body Repairman) and other combinations.

When RCEME was created, [CARO 4230] transferred to RCEME all RCOC Body Repairman (Body Builder).

When RCEME was created, [CARO 4230] transferred to RCEME any RCASC Body Repairman (Body Builder) who were in units that were converted to RCEME.

No details on the Body Repairman (Body Builder) trade have been found. This trade is not listed in [Trades 1943] or [Trades 1944].

[Trades 1944] lists the Panel Beater (Body Repairman) trade as applicable to RCEME and RCASC.

During the Second World War, no record of a Panel Beater (Body Repairman) has been found in a RCEME unit establishment.

The trade had three groups: C, B, and A.

[CARO 6579 (1946)] renamed the Panel Beater (Body Repairman) trade to a Panel Beater and reclassified it as a Group 1, Group 2, Group 3 trade.

[CAO 269-1 (1947)] renamed the Panel Beater (Body Repairman) trade to Body Repairman and reclassified it as a Group 1, Group 2, Group 3 trade, effective 8 April 1947.

[CAO 269-1 (1949)] confirmed the Body Repairman trade as a Group 1, Group 2, Group 3 trade assigned to RCEME.

[CAO 269-1 (1950)] listed the Body Repairman trade as a Group 1, Group 2, Group 3 trade assigned to RCEME.

[CAO 269-1 (1952)] listed the Body Repairman trade as a Group 1, Group 2, Group 3 trade assigned to RCEME.

There is an LAC file on the trade. [LAC Reference: Policy of Training and Qualifications - Body Repairman 1952-1959. RG24-C-1-c, Volume 31348, File 3202-B22.] It contains 1953 trade standards for Body Repairman Group 1 and Group 3, which have been placed on the RCEME Historical Database and on the Internet Archive.

The 182nd meeting of the Army Trades Committee Meeting on 27 November 1963 noted the deletion of the Body Repairman Group 1 trade, reducing the trade to a Body Repairman Group 2, Group 3 trade. [LAC-ATC]

The Metals Technician trade replaced the Body Repairman and Welder Trades about 1965. [LAC]

See the Metals Technician trade.

Panel Beater (Body Repairman) Trade Test in 1944 [Trades 1944]

The trade had three levels: Group C, Group B, and Group A. To qualify for Group C, the candidate had to:

> Be able to use efficiently, keep in good condition and know the names of the-tools and equipment used in his trade.
>
> Be able to "rough out" damaged fenders and bodies.
>
> Be able to use soft solder and other fillers.
>
> Be able to adjust doors.

To qualify for Group B, the candidate, in addition to the requirements for Group C, had to:

> Be able in a skilled manner to re-establish the alignment of bodies and frames, and repair to a good standard of quality all types of damaged fenders and bodies.

To qualify for Group A, the candidate, in addition, to the requirements for Group C and Group B, had to:

> Be able to diagnose collision effects in damaged bodies and frames, be able to straighten bodies without stretching the metal panels.
>
> Be able to shrink metal.
>
> Be able to weld and braze and to execute highly skilled body repairs.
>
> Be able to prepare a surface for painting and use paint spray equipment.

Carpenter

When RCEME was created, the Carpenter trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

When RCEME was created, [CARO 4230] transferred to RCEME any RCOC Carpenters who were in units that were converted to RCEME.

When RCEME was created, [CARO 4230] transferred to RCEME any RCASC Carpenters who were in units that were converted to RCEME.

[Trades 1944] lists the Carpenter trade as open to RCEME, CAC, CAC (Recce), RCE, RC Sigs, CIC, RCASC, RCOC, RCAMC, and CFC.

During the Second World War, Carpenters could be found in second, third and fourth line RCEME units.

The trade had two groups: C and B.

[CARO 6579 (1946)] reclassified the Carpenter trade as a Group 1, Group 2 trade.

[CAO 269-1 (1947)] confirmed the Carpenter trade as a Group 1, Group 2 trade.

[CAO 269-1 (1949)] assigned the Carpenter trade to the RCE, and it was no longer part of RCEME.

Carpenter Trade Test in 1944 [Trades 1944]

The trade had two levels: Group C and Group B. To qualify for Group C, the candidate had to:

> Know the names of, and be able to use and keep in order, the tools in a standard carpenter’s chest.
>
> Be able to make simple joints, such as mortise and tenon, and to do ploughing and tonguing, scarfing and splicing, and common dovetailing.
>
> Understand and be able to fit builders hardware.

To qualify for Group B, the candidate, in addition to the requirements for Group C, had to:

> Be able to identify different varieties of timber, recognize any defects in them, and to state for what particular purpose or class of work the goods are suitable.
>
> Be able to execute, in a thoroughly skilled manner, any carpentering work that may be required.
>
> Be able to read drawings and estimate quantities.
>
> Be able to lay out and supervise work.
>
> Have a knowledge of simple woodworking machines.

Carpenter and Joiner

When RCEME was created, [CARO 4230] transferred to RCEME any RCOC and RCASC Carpenters and Joiners who were in units that were converted to RCEME.

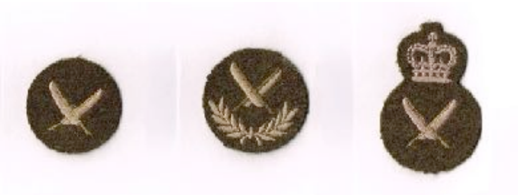
[Trades 1943] does not list this trade.

[Trades 1944] does not list this trade.

No Carpenter and Joiner trades have been found in a Second World War RCEME establishment.

At the 29th meeting of the Army Trades Committee Sub Committee on 18 September 1952, DEME proposed the new trade of Carpenter and Joiner (RCEME) to replace the Carpenter trade. A copy of the trade specification has been placed on the RCEME Historical Database and on the Internet Archive. No evidence that the proposal was accepted has been found. At the time, the Carpenter trade belonged to the RCE.

Clerk Administrative, Clerk, and Clerk Stenographer



Administrative Clerk
Group 1, Group 2, Group 3
(Courtesy Gord Goddard)

When RCEME was created, the Clerk trades wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

The transfer of Clerks to RCEME is a bit murky.

When RCEME was created, [CARO 4230] transferred the Clerk (C.E.M.E.) from the RCOC to RCEME.

[CARO 4431] cancelled the transfer of the Clerk (C.E.M.E.) to RCEME.

[CARO 4431] transferred the Clerk (with no other designation) trade from the RCOC to RCEME if the Clerks were in a unit that was converted to RCEME.

[CARO 4230] transferred the Clerk (Stenographer) to RCEME if the Clerk (Stenographer) was in an RCOC unit that was converted to RCEME. However, Stenographer was a part of the Clerk trade.

[Trades 1944] lists the Clerk trade as applicable to All Corps.

During the Second World War, Clerks could be found in second, third and fourth line RCEME units and RCEME HQs.

The trade had two groups: C and B.

[CARO 6579 (1946)] combined the Accountant (Signals), Clerk, Clerk (Superintending) and Clerk (Engineering Accountant) trades, and split them into a Clerk (Administrative) Group 1, Group 2, Group 3 trade, or a Clerk (Accounting) Group 1, Group 2, Group 3 trade. These trades were open to any Corps.

[CAO 269-1 (1947)] assigned the Clerk Accounting trade to other Corps and it was no longer available to RCEME.

[CAO 269-1 (1947)] confirmed the Clerk (Administrative) as a Group 1, Group 2, Group 3 trade.

[CAO 269-1 (1947)] confirmed the Clerk (Administrative) as a Group 1, Group 2, Group 3 trade open to all Corps.

[CAO 269-1 (1950)] listed the Clerk (Administrative) as a Group 1, Group 2, Group 3 trade open to any Corps.

[CAO 269-1 (1952)] confirmed the Clerk (Administrative) as a Group 1, Group 2, Group 3 trade open to any Corps.

At this time, the trades standards for this trade will not be pursued. RCEME Clerks continued to exist until Unification.

Clerk Trade Test in 1944 [Trades 1944]

The trade had two levels: Group C and Group B. To qualify for Group C, the candidate had to:

> Have a general knowledge of the arm of the service to which he belonged and its relation to the other arms; he had to be familiar with military terms and methods of correspondence; and he be familiar with security regulations.
>
> Have had some practical experience of office routine as outlined in Kings Regulations (Canada) including the registration and filing of correspondence and the compilation of returns.
>
> In addition, the following standard of technical skill was required:
>
> > Typewriting - Candidates had to type from legible manuscript, a paragraph containing 150 words in 10 minutes. Errors could not exceed two per cent of the number of words in the piece, including omissions, mis-spelling, wrong punctuation, spacing or paragraphing, and typing one letter or figure over another. Each omission of a complete word either in the body or at the end of the text, counted as one error.
> >
> > Candidates had to hold 2nd Class (Army) Certificate of Education or satisfy the Board that an equivalent standard had been attained.
> >
> > Clerks had to be able to write ordinary memoranda, and letters, or be trained in the reproduction of tactical sketches.
>
> N.B: All Clerks had to complete their basic military training before they could be employed as tradesmen.

To qualify for Group B, the candidate, in addition to the requirements for Clerk Group C, had to:

EITHER

Typist

> Be able to type from unfamiliar copy at a net speed of forty (40) words per minute for a period of ten (10) consecutive minutes.
>
> Be able to write routine, daily and operation orders; memoranda and precis when given the essential details.
>
> Be able to set up and operate the standard unit filing system.
>
> Have a good knowledge of the filing system at any formation HQ's (or the one at which he has been employed).
>
> Have a good knowledge of army organization and administration, channels of communication, registration of correspondence and security documents, security generally.

Have a good knowledge of standard military forms and their uses.

Have a general knowledge of army accounting.

Have a general knowledge of K.R. (Can.) and F.R. & I.

Have a general knowledge of the administration of discipline, as it effects unit orderly room office work.

Have completed a minimum of three months satisfactory service in a unit or formation establishment as a Clerk Group C, as certified to the trade testing board by the O.C. of the unit or Corps concerned.

OR

Accountant

Be able to set up and keep accurately a double entry bookkeeping system.

Be able to open and keep accurately, a simple synoptic ledger.

Be able to get out a balance sheet and monthly return of financial statements as required for audit of regimental and mess accounts.

Have a good knowledge of general bookkeeping.

Have a good knowledge of C.A.O.R.O's. and K.R. (Can.) as they affect army accounting. Have a good knowledge of "Rules for the Management of Messes and Canteens, Cdn. Army 1942".

Have completed a minimum of three months satisfactory service in a unit or formation establishment as a Clerk Group C, as certified to the trade testing board by the O.C. of the unit or Corps concerned.

OR

Stenographer

Be able to take dictation at the rate of 80 words per minute for 5 minutes consecutively and to transcribe this dictation within a time limit of 45 minutes with not more than 2 per cent error.

Be able to typewrite from unfamiliar copy at a net speed of 40 words per minute for a period of 10 consecutive minutes.

Have completed a minimum of three months satisfactory service in a unit or formation establishment as a Clerk Group C, as certified to the trades testing board by the O.C. of the unit or Corps concerned.

OR

Departmental

Have a thorough knowledge of office routine and understand fully the system of filing used by his arm of the service.

Have a thorough knowledge of all military forms used by his arm of the service and knowledge of the information conveyed on such forms when completed.

Be able to draft ordinary office memoranda and letters and be able to write and print legibly and neatly.

Know the proper channels of communication and the proper treatment of confidential, security and secret correspondence, maps or publications.

Have a good knowledge of the army publications applicable to his arm of service.

Have completed a minimum of three months satisfactory service in a unit or formation establishment as a Clerk, Group C, as certified to the trade testing board by the O.C. of the unit or Corps concerned.

Clerk (Superintending)

When RCEME was created, the Clerk (Superintending) trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

When RCEME was created, [CARO 4230] transferred to RCEME any RCOC Clerks (Superintending) who were in units that were converted to RCEME.

[Trades 1944] lists the Clerk (Superintending) trade as applicable to all Corps except RCE.

During the Second World War, Clerks (Superintending) could be found in second, third and fourth line RCEME units and RCEME HQs.

The trade had only one group: Group A.

[CARO 6579 (1946)] combined the Clerk (Superintending), Accountant (Signals), Clerk, and Clerk (Engineering Accountant) trades and reclassified them as either a Clerk (Administrative) Group 1, Group 2, Group 3 trade, or a Clerk (Accounting) Group 1, Group 2, Group 3 trade. These trades were open to any Corps.

For further details, see the Clerk (Administrative) trade.

Clerk (Superintending) Trade Test in 1944 [Trades 1944]

The trade had one level: Group A. To qualify for Group A, the candidate, in addition to the requirements for Clerk, Group B, had to:

> Demonstrate a basic knowledge of all phases of work performed by the branch or department which he is to superintend, knowledge of work being performed by each section or sub-section, knowledge of work being performed by each individual Clerk under his control. Substantial knowledge of the regulations (routine orders, King’s Regulations (Can.), training manuals) and such other publications as affect the workings of his branch.
>
> N.B.—The trade testing board will require, and may accept in lieu of a trade test, a certificate from the officer i/c of the particular branch, department or office, stating that he is satisfied as to the ability of the candidate to superintend the section under his control in a satisfactory manner.

Coach Painter aka Painter, Coach

When RCEME was created, the Coach Painter trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

When RCEME was created, [CARO 4230] transferred to RCEME all RCOC Coach Painters.

When RCEME was created, [CARO 4230] transferred to RCEME any RCASC Coach Painters who were in units that were converted to RCEME.

[Trades 1944] lists the Coach Painter trade as applicable to RCASC and RCEME.

During the Second World War, Coach painters could be probably be found in fourth line RCEME units. No Coach Painters have been found in a RCEME unit establishment.

The trade had two groups: C and B.

[CARO 6579 (1946)] combined the Coach Painter trade with the Painter and Decorator trade and reclassified it as a Painter as a Group 1, Group 2 trade.

[CAO 269-1 (1947)] confirmed the Painter as a Group 1, Group 2 trade.

[CAO 269-1 (1949)] assigned the Painter trade to the RCE and it was no longer open to RCEME.

Coach Painter Trade Test in 1944 [Trades 1944]

The trade had two levels: Group C and Group B. To qualify for Group C, the candidate had to:

> Be able efficiently to keep in good condition and know the names of the tools and equipment used by a coach painter.
>
> Be able in a skilled manner to prepare surfaces for painting; maintain correct paint consistency with suitable thinning liquids; apply paint economically and efficiently to a motor vehicle body of timber or metal.
>
> Have a good knowledge of mixing and matching paint.

To qualify for Group B, the candidate, in addition to the requirements for Group C, had to:

> Know the physical properties of the more commonly used paint bases and pigments and know how paint is made and how it reacts to varying weather conditions.
>
> Be able to estimate accurately the amount of paint needed to carry out any job in his trade.
>
> Know the basic fundamentals of and how to execute all kinds of camouflage painting.
>
> Be able in a skilled manner, to execute sign writing, stripping and to produce a first quality finish to car bodies.

Coach Trimmer & Upholsterer aka Trimmer & Upholsterer, Coach

When RCEME was created, the Coach Trimmer and Upholsterer trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

There is no real evidence that the Coach Trimmer & Upholsterer trade was transferred to RCEME. It does not appear in [CARO 4230] or the amendments.

However, [Trades 1944] lists the trade as applicable to RCEME, RCASC, and RCOC. Coach Trimmer & Upholsterer tradesmen in a unit converted to RCEME were probably transferred.

During the Second World War, Coach Trimmer and Upholsterers could be found in second and third line RCEME units.

The trade had two groups: C and B.

[CARO 6579 (1946)] reclassified Coach Trimmer & Upholsterer trade as a Group 1, Group 2 trade.

The trade was discontinued in 1946 and included in the new trade of Leather and Canvas Worker (later Leather and Textile worker) which were RCOC, not RCEME, trades. [Skill at Arms]

Coach Trimmer & Upholsterer Trade Test in 1944 [Trades 1944]

The trade had two levels: Group C and Group B. To qualify for Group C, the candidate had to:

> Know the names of, and be able to use and keep in order, the tools with which he is equipped.
>
> Be able in a skilled manner to repair with sewing machine and/or hand methods, cushions, fabric linings of motor cars and ambulance bodies, collapsible tops of motor cars, tarps, frost covers (muffs), radiator frost shields and curtains.
>
> Be able to remove and apply sound proofing materials to car body interiors, to apply rubber safety pads.
>
> Be able, under supervision, to remove and install interior hardware fittings and linings of motor vehicle bodies.
>
> Have a fair knowledge of names of body components and materials used.

To qualify for Group B, the candidate, in addition to the requirements for Group C, had to:

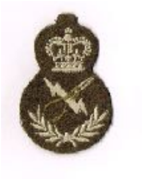
> Be able to lubricate, thread up, wind bobbin and adjust tension of sewing machines.
>
> Be able in a skilled manner to remove and replace linings, interior trim, hardware, dome lights and switches.
>
> Be able to fit and replace, nailing strips, bows and wood or fibre elements of body construction. Rebuild cushion springs and re-pad cushions.

Have a good knowledge of materials used, and the nomenclature of body parts and materials used.

Be able to produce patterns from which lining and upholstery materials may be cut; to cut material, machine and finish cushions, interior panels and head linings to new car standard of quality.

Be able to estimate material and time.

Communication System Artificer aka Master Communication System Technician



Communication System Artificer
Group 4
(Courtesy Gord Goddard)

This is a postwar trade.

Some references mention Communication System or Communication Systems interchangeably.

The 141st meeting of the Army Trades Committee on 18 January 1955 created the Communication System Artificer Group 4 as the Group 4 level of the Communication System Technician Group 1, Group 2, Group 3 trade. A trade specification has been placed on the RCEME Historical Database and on the Internet Archive. [LAC]

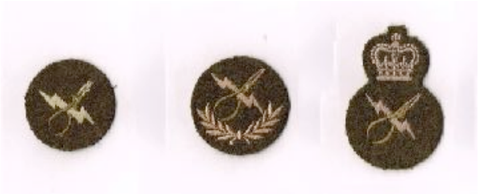
A memo in June 1960 noted that the Communication System Artificer and Communication System Technicians were not being employed because there was no equipment in service on which the trade was based. It was recommended that the trades be designated wartime trades only. [RCEME Archives]

This trade is included in RCEME Technical Bulletin Vol. 6, No.1, February 1961, which listed all RCEME trades and common trades applicable to RCEME and their authorized trade groups in 1960.

On 13 July 1962, the Army Trades Committee agreed to a DEME request dated 27 June 1962 to change the appointment of Artificer to Engineering Technician, change the trade name of Artificer to Master Technician, and reduce the rank prerequisite to “hold the substantive rank of corporal”. Nine RCEME trades were involved. Accordingly, the Communication System Artificer was renamed Master Communication System Technician.

On 16 January 1964, the Army Trades Committee agreed to a DEME request to delete the Master Communication System Technician trade. [LAC - ATC]

Communication System Technician



Communication System Technician
Group 1, Group 2, Group 3

(Courtesy Gord Goddard)

This was a postwar trade.

Some references mention Communication System or Communication Systems interchangeably.

The 141st meeting of the Army Trades Committee on 18 January 1955 renamed the Telecommunication Mechanic (Line of Communication) Group 1, Group 2, Group 3 trade to the Communication System Technician Group 1, Group 2, Group 3 trade. A trade specification has been placed on the RCEME Historical Database and on the Internet Archive. Trade progression at the Group 4 level was to the Communication System Artificer Group 4 or the Radio Artificer Group 4. [LAC - ATC]

The Radio Technician, Radar Technician, Fire Control System Technician (AA) and Communication System Technician shared a common Group 1 trades specification. A copy has been placed on the RCEME Historical Database and on the Internet Archive.

A memo in June 1960 noted that the Communication System Artificer and Communication System Technicians were not being employed because there was no equipment in service on which the trade was based. It was recommended that the trades be designated wartime trades only. [RCEME Archives]

This trade is included in RCEME Technical Bulletin Vol. 6, No.1, February 1961, which listed all RCEME trades and common trades applicable to RCEME and their authorized trade groups in 1960.

On 16 January 1964, the Army Trades Committee agreed to a DEME request to delete the Communication System Technician trade. [LAC - ATC]

Control Equipment Artificer (proposed)

The Control Equipment Artificer trade was the proposed Group 4 level of the Control Equipment Technician trade. The trade was never created.

The 137th Meeting of the Army Trades Committee on 2 June 1954 noted that the proposed Control Equipment Artificer trade had been completely withdrawn by the sponsor (DEME).

See the Control Equipment Technician trade.

Control Equipment Technician (proposed)

At the 47th meeting of the Army Trades Committee Sub Committee on 13 May 1954, DEME proposed the creation of a new trade for the repair of the 90-mm Anti-aircraft gun, its supporting equipment, the M33 radar, and the associated AA battery equipment. The trade would combine the instrument knowledge of the Instrument Mechanic, and the electronic knowledge of the Radar Mechanic.

The trade would be a Group 1, Group 2, Group 3 trade. The proposed trade specification has been placed on the RCEME Historical Database and on the Internet Archive.

DEME held a meeting on 26 July 1954 to re-examine the whole problem of radar and control equipment tradesmen. As a result, it was decided to abandon the concept of the Control Equipment Technician. A new series of trades would be created: a Telecommunication Mechanic dealing with all aspects of the M33 fire control equipment and its computer and gun controls; and a system mechanic dealing entirely with guided missile external control equipment.

The 137th Meeting of the Army Trades Committee on 2 June 1954 noted that the proposed Control Equipment Technician trade had been completely withdrawn by the sponsor (DEME).

The Control Equipment Technician trade was never created.

Coppersmith

When RCEME was created, the Coppersmith trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

When RCEME was created, [CARO 4230] transferred all RCOC Coppersmiths to RCEME.

When RCEME was created, [CARO 4230] transferred to RCEME any RCASC Coppersmiths who were in units that were converted to RCEME.

[Trades 1944] lists the Coppersmith trade as applicable to RCEME and RCASC.

During the Second World War, Coppersmiths were probably employed in fourth line RCEME units. However, although listed as a RCEME trade, no reference to a Coppersmith has been found in a RCEME Second World War unit establishment.

The trade had two groups: C and B.

On 15 June 1945, DEME advised the Director of Military Training that there were no Coppersmiths in the RCEME Home War Establishments (ie, in Canada), and that it was unlikely that they would be added to the establishments in Canada in the future. [LAC - Policy - Training of Tradesmen, RCEME]

The Coppersmith trade was discontinued in 1945. [Skill at Arms]

[CARO 6579 (1946)] did not list the trade.

Coppersmith Trade Test in 1944 [Trades 1944]

The trade had two levels: Group C and Group B. To qualify for Group C, the candidate had to:

> Know the names of, be able to use correctly, the tools in a coppersmith’s kit.
>
> Be able to keep in order and adjust properly the above tools.
>
> Be able to braze and use brazing hearth; to solder or braze tinplate, brass and iron sheet; to work in brass, copper, aluminum, iron (black and tinned) in sheets, tube and cast form; to bend small tubes (brass, copper and iron) and solder or braze unions to them; to make templets and bend pipe to a wire templet; to maintain and repair all tube work, ferrous and non-ferrous; to make saddle joints; to mark out plates; to use hard and soft solders; to use various fluxes correctly; to flange a pipe, to rivet, repair and rebuild petrol tanks; to bump metals; to tin metals, especially copper; to improvise material from scrap heap; to read and prepare simple drawings and to sketch parts.
>
> Have a knowledge of the general principles of soldering, brazing and welding; various fluxes and solders required for different metals and types of work; laying out of work; all tinsmith’s work and tools.

To qualify for Group B, the candidate, in addition to the requirements for Group C, had to:

> Be able to use correctly, small oxyacetylene welder’s torches, shears, automatic and bench, folders and rollers.

Be able to care for, maintain and repair any tools in general use by coppersmiths and tinsmiths.

Be able to make a radiator coil; to rebuild tubular and honeys comb radiators; to make copper pipe from gauge sheet copper; to anneal and bend tube; to build up cylinders, cones, spheres, etc.; to fit new and repair damaged petrol pipes; operate a small tinsmith or coppersmith shop.

Have a knowledge of elementary mathematics including fractions and decimals and metric equivalents; elementary metallurgy and uses of different metals and to read blue-prints.

Draughtsman (Lithographer)

[CARO 4230] does not list this trade as being transferred to RCEME.

However, [Trades 1944] lists this trade as applicable to RCEME, RCE, CFC, and CWAC.

No reference to a Draughtsman (Lithographer) has been found in a RCEME Second World War Establishment.

On 15 June 1945, DEME advised the Director of Military Training that there were no Draughtsman (Lithographer) in the RCEME Home War Establishments (ie, in Canada), and that it was unlikely that they would be added to the establishments in Canada in the future. [LAC - Policy - Training of Tradesmen, RCEME]

A DEME memo on 30 January 1946 advised that the Draughtsman (Lithographer) trade was no longer required by RCEME and could be deleted from the list of RCEME trades. [LAC - Policy - Training of Tradesmen, RCEME]

Draughtsman

[CARO 4431] transferred to RCEME any RCOC Draughtsmen (with no specialty noted) who were in units converted to RCEME.

No listing of this trade (with no specialty noted) appears in [Trades 1943 or Trades 1944].

No trades test has been found.

Draughtsman (Mechanical) aka Draughtsman (Electrical and Mechanical)

When RCEME was created, the Draughtsman (Mechanical) trade wore the "T" badge relevant to the tradesman's level of qualification (see the introduction to Annex A for a description and photo of the badges).

When RCEME was created, [CARO 4230] transferred to RCEME any RCOC Draughtsmen (Mechanical) who were in units that were converted to RCEME.

When RCEME was created, [CARO 4230] transferred to RCEME any RCASC Draughtsmen (Mechanical) who were in units that were converted to RCEME.

[CARO 4431] amended this to transfer to RCEME all RCOC Draughtsmen (Mechanical), as well as RCASC Draughtsmen (Mechanical) who were in units transferred to RCEME.

[Trades 1944] lists the Draughtsman (Mechanical) trade as applicable to RCEME, RCE, RCASC, and CWAC.

During the Second World War, Draughtsmen (Mechanical) could be found in fourth line RCEME units.

The trade had three groups: C, B, and A.

[CARO 6579 (1946)] reclassified the Draughtsman (Mechanical) trade as a Group 1, Group 2, Group 3 trade.

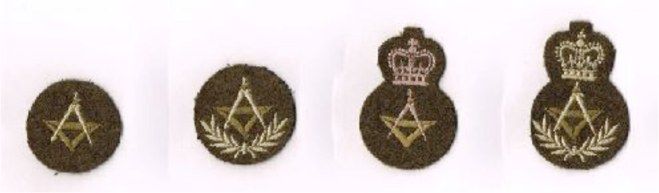
[CAO 269-1 (1947)] confirmed the Draughtsman (Mechanical) as a Group 1, Group 2, Group 3 trade.

[CAO 269-1 (1949)] renamed the Draughtsman (Mechanical) to Draughtsman (Electrical and Mechanical) as a Group 1, Group 2, Group 3 trade assigned to RCEME.

[CAO 269-1 (1950)] listed the Draughtsman (Electrical and Mechanical) trade as a Group 1, Group 2, Group 3 trade assigned to RCEME.

[CAO 269-1 (1952)] listed the Draughtsman (Electrical and Mechanical) trade as a Group 1, Group 2, Group 3 trade assigned to RCEME.

The 126th Meeting of the Army Trades Committee on 26 June 1952 approved the upgrading of the Draughtsman (Electrical and Mechanical) trade to include a Group 4 level. [LAC-ATC]



Draughtsman (Electrical and Mechanical)
Group 1, Group 2, Group 3, Group 4

(Courtesy Gord Goddard)

The Draughtsman (Electrical and Mechanical) trade was still a RCEME trade in 1960.

This trade is included in RCEME Technical Bulletin Vol. 6, No.1, February 1961, which listed all RCEME trades and common trades applicable to RCEME and their authorized trade groups in 1960. That reference includes a Group 4 in the trade.

The Draughtsman (Electrical and Mechanical) became a Draughtsman on Unification. The trade was no longer a RCEME trade. [RCEME Technical Bulletin, Vol. 11, No. 4, October 1966]

Draughtsman (Mechanical) Trade Test in 1944 [Trades 1944]

The trade had three levels: Group C, Group B, and Group A. To qualify for Group C, the candidate had to:

Be able to use drawing instruments, and all common drawing room equipment.

Be able to care for the above equipment and keep it in proper condition.

Be able to use drawing conventions and abbreviations correctly.

Be able to prepare working drawings from sketches and rough notes.

Be able to write a good hand, do good plain lettering and to spell correctly.

Be able to construct all common geometrical figures.

Be able to make neat and accurate tracings on line or paper and make clear prints from them.

Be able to work out by simple formulae areas and volumes.

Have a sound knowledge of arithmetic up to square root.

To qualify for Group B, the candidate, in addition to the requirements for Group C, had to:

Be able to use micrometers, verniers, and all common measuring tools.

Be able to make neat freehand sketches of machine parts.

Be able to make complete detail drawings for a machine involving gearing and a shaft, from sketches on the actual machine, and an assembly drawing properly cross-sectioned.

Have an elementary knowledge of machine shop practice, pattern making, foundry work, blacksmithing and welding.

Have a sound knowledge of algebra up to simple equations, elementary trigonometry, elementary applied mechanics and logarithms.

Know the properties of the common materials used in machine construction.

To qualify for Group A, the candidate in addition to the requirements for Group B and Group C, had to:

Be able to produce complete drawings of simple machines or parts which could be made with unit or local facilities.

Be able to use properly, standard engineer pocketbooks and reference tables.

Have a good knowledge of general shop work and practice.

Have a sound knowledge of logarithms and the slide rule.

Have a knowledge of applied mechanics.

Have a working knowledge of makers' catalogues, spare parts, and identification lists.

Have a knowledge of correspondence, office procedure, and publications of an official nature used by his branch of the service.

Driver Mechanic (MV) (AFV) (Tank) (Wheeled) (Tracked)

When RCEME was created, the Driver Mechanic trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1943] lists the Driver Mechanic trade.

In 1943, the Driver Mechanic trade was split into three: Driver Mechanic (MV), Driver Mechanic (Carrier), and Driver Mechanic (Tank). [Skill at Arms]

When RCEME was created, [CARO 4230] transferred to RCEME any RCOC and RCASC Driver Mechanics (no specialty noted - presumably all types) who were in units that were converted to RCEME.

[Trades 1944] lists the Driver Mechanic (MV) or (Carrier) trades as open to all Corps, except RCAMC, CDC, and C Pro C, and the Driver Mechanic (Tank) trade as open to the CAC and RCA.

During the Second World War, Driver Mechanics of all types could be found in all levels of RCEME units.

[CARO 6579 (1946)] recombined the Driver Mechanic (MV), (AFV), and (Tank) trades and reclassified the trade as a Driver Mechanic Group 1 trade.

[CAO 269-1 (1947)] split the Driver Mechanic Group 1 trade into Driver Mechanic (Tracked) Group 1 and Driver Mechanic (Wheeled) Group 1 trades. At this time the Driver Mechanic trades served as the Group 1 trade for the Vehicle Mechanic trades.

[CAO 269-1 (1949)] confirmed the Driver Mechanic (Tracked) trade as a Group 1 trade assigned to RCEME, and also open to the RCA, RCAC, and RCE. At this time the Driver Mechanic trades served as the Group 1 trade for the Vehicle Mechanic trades.

[CAO 269-1 (1949)] confirmed the Driver Mechanic (Wheeled) trade as a Group 1 trade assigned to RCEME, and also open to the RCA, RCAC, RCE, RC Sigs, RCIC, RCASC, RCOC, and C Pro C. At this time the Driver Mechanic trades served as the Group 1 trade for the Vehicle Mechanic trades.

[CAO 269-1 (1950) listed the Driver Mechanic (Tracked) trade as a Group 1 Trade open to RCAC, RCA, RCE, and RCEME.

[CAO 269-1 (1950)] listed the Driver Mechanic (Wheeled) trade as a Group 1 trade open to the RCEME, RCA, RCAC, RCE, RC Sigs, RCIC, RCASC, RCOC, and C Pro C.

A letter dated 27 September 1950 implies that the Driver Mechanic (Wheeled) and Driver Mechanic (Tracked) trades were being remustered to the new Vehicle Mechanic (Wheeled) Group 1 and Vehicle Mechanic (Tracked) Group 1 trades. [LAC file 3202-V6]

[CAO 269-1 (1952) reduced the Driver Mechanic (Tracked) trade to a Group 1 Trade Specialty open to RCAC, RCA, RCE, and RCEME.

[CAO 269-1 (1952)] reduced the Driver Mechanic (Wheeled) trade to a Group 1 Trade Specialty open to RCEME, RCA, RCAC, RCE, RC Sigs, RCIC, RCASC, RCOC, and C Pro C.

There is an LAC file on the Driver Mechanic (Wheeled). [LAC Reference: Policy of Training and Qualifications - Driver Mechanics (Wheeled) 1956-1958. RG24-C-1-c, Volume/box number 31349, File number 3202-D22/2.]

There is an LAC file on the Driver Mechanic (Tracked). [LAC Reference: Policy of Training and Qualifications - Driver Mechanics (Tracked) 1950-1956. RG24-C-1-c, Volume/box number 31349, File number 3202-D22/1.]

A 1952 trade specification for the Driver Mechanic (Wheeled) Group 1 and Driver Mechanic (Tracked) Group 1 has been found and placed on the RCEME Historical Database and on the Internet Archive.

[CAO 269-1 Amendment dated 7 June 1954] deleted the Driver Mechanic (Tracked) in RCE and RCEME.

Driver Mechanic (MV) Trade Test in 1944 [Trades 1944]

The trade had one level: Group C. To qualify for Group C, the candidate had to:

> Be a qualified driver IC (Internal Combustion) on all vehicles of his Corps (except tanks).
>
> Thoroughly understand the correct maintenance of all vehicles, other than tanks, in current use in his Corps , and be able to advise and direct others in this connection.
>
> Recognize lubricants and know their correct use in vehicles with which he is concerned.
>
> Be familiar with and understand the use of the tools of all vehicles with which he is concerned.
>
> Have a good knowledge of the functions of, and be able to carry out emergency and running repairs to, fuelling, lubrication, electrical, cooling, braking and steering systems as well as clutch pedal and wheel bearing adjustments.
>
> Know and be able to use the proper methods of towing and recovering of disabled equipment.

[Trades 1944]

Driver Mechanic (AFV) Trade Test in 1943 [Trades 1943]

The trade had one level: Group C. To qualify for Group C, the candidate had to:

> Be able to name, use skilfully and maintain the tools of the trade.
>
> Be a thoroughly proficient driver on all vehicles in his unit.
>
> Thoroughly understand the care and maintenance and be able to take charge of all types and makes of vehicles in current use in his Corps.
>
> Know and recognize the correct lubricants to use, when and where to use them on all vehicles in his unit.
>
> Have a good knowledge of the functions of and be able to make improvised or running repairs to carburetor, ignition, electrical, cooling and braking systems as well as carry out clutch adjustments.

Be able to diagnose minor troubles.

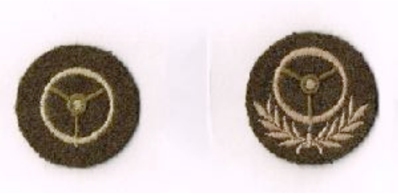
Be able to use the various methods of unditching vehicles.

[Trades 1943]

Driver Mechanic (Tank) Trade Test in 1944 [Trades 1944]

No trades test for the Driver Mechanic (Tank) has been found.

Driver Mechanical Transport (including Driver Mechanical Transport (Militia))



Driver Mechanical Transport
Group 1, Group 2
(Courtesy Gord Goddard)

This is a postwar trade.

The Driver Mechanical Transport Group 1 trade replaced the Driver Mechanic (Wheeled) Group 1 trade about 1954 [Skill at Arms].

The 145th meeting of the Army Trades Committee on 21 July 1955 created the Driver Mechanical Transport Group 1, Group 2 trade to replace the existing Driver Mechanical Transport Group 1 and Instructor Driver Mechanic Group 2 trades. [LAC - ATC]

This trade is included in RCEME Technical Bulletin Vol. 6, No.1, February 1961, which listed all RCEME trades and common trades applicable to RCEME and their authorized trade groups in 1960.

A 1959 Driver Mechanical Transport Group 1, Group 2 specification has been placed on the RCEME Historical Database and on the Internet Archive. [CAMTS]

The Driver Mechanical Transport Group 2 could progress to an Assistant Instructor (RCEME) Group 3. [CAMTS]

A trade specification for the Driver Mechanical Transport (Militia) Group 1 has been found and placed on the RCEME Historical Database and on the Internet Archive.

Driver Operator (later Driver Radio Operator)

When RCEME was created, the Driver Operator trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

[CARO 4230] does not list the Driver Operator as being transferred to RCEME when RCEME was created.

However, when RCEME was created, Driver Operators in RCOC units that were converted to RCEME were probably transferred to RCEME.

[Trades 1944] listed the Driver Operator trade as open to the CAC (Recce), RCA, RCE, RC Sigs, CIC, RCEME, and the RCDC.

During the Second World War, Driver Operators could be found in all levels of RCEME units.

The trade had one level: Group C.

[CARO 6579 (1946)] reclassified the Driver Operator trade as a Group 1 trade.

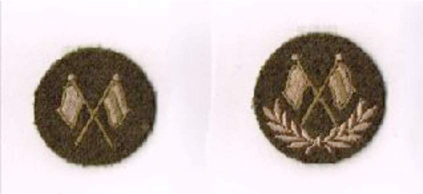
[CAO 269-1 (1947)] confirmed the Driver Operator trade as a Group 1 trade.

[CAO 269-1 (1949)] confirmed the Driver Operator trade as a Group 1 trade, with primary responsibility assigned to RC Sigs and tradesmen also assigned to RCAC, RCA, RCE, RC Sigs, RCIC, and RCEME. This trade replaced the trades of Driver Operator, Operator RCAC, Signaller Artillery, and Signaller Infantry.

[CAO 269-1 (1950)] confirmed the Driver Operator trade as a Group 1 trade, with primary responsibility assigned to RC Sigs and tradesmen also assigned to RCAC, RCA, RCE, RC Sigs, RCIC, and RCEME.

[CAO 269-1 (1952)] reduced the Driver Operator trade to a Group 1 Trade Specialty, with primary responsibility assigned to RC Sigs and tradesmen also assigned to RCAC, RCA, RCE, RC Sigs, RCIC, and RCEME.

The 160th meeting of the Army Trades Committee on 11 December 1957 replaced the Driver Operator trade with the Driver Radio Operator Group 1, Group 2 trade. [LAC - ATC]



Driver Radio Operator
Group 1, Group 2

(Courtesy Gord Goddard)

A 1958 Driver Radio Operator Group 1, Group 2 specification has been placed on the RCEME Historical Database and on the Internet Archive. [CAMTS]

This trade is included in RCEME Technical Bulletin Vol. 6, No.1, February 1961, which listed all RCEME trades and common trades applicable to RCEME and their authorized trade groups in 1960.

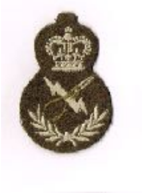
The Driver Radio Operator trade was abolished in RCEME in 1963 [Skill at Arms].

Driver Operator Trade Test in 1944 [Trades 1944]

The trade had one level: Group C. To qualify for Group C, the candidate had to:

> Be a qualified driver I.C.
>
> Be able to send and receive W/T at 10 words per minute.
>
> Be able to send and receive W/T messages in a moving vehicle at 6 words per minute.
>
> Be able to establish communication by R/T and W/T and know R/T and W/T procedure for both written and UR messages as laid down in S.T. (AA).
>
> Be able to unpack, connect up, adjust for working, as a ground or mobile station and repack wireless set; also locate and repair external faults, i.e., faults which do not necessitate dismantling set.
>
> Know signals strengths and W/T procedure signals.
>
> Have a knowledge of elementary electricity. S.T. (AA).
>
> Know how primary and secondary batteries are cared for both when in use and when laid up. Know: the maintenance of connectors, plugs and sockets and the use of hydrometer and voltmeter.
>
> Know the system of charging batteries in a vehicle.
>
> Be proficient in the use of map reference code and in map reading, i.e., know conventional signs, recognize quickly, place names on one inch map; take a bearing on the map and on the ground; use map references; visualize ground by looking at the map; determine and memorize the best route from point to point on the map; set a map without a compass by the ground and by the sun.

Electrical Artificer aka Master Electrical Technician



Electrical Artificer
Group 4
(Courtesy Gord Goddard)

In the mid 1930s, there were three types of artificer: the Armament Artificer (Fitter), Armament Artificer (Instruments), and Artificer Artillery. With the influx of new weapons and vehicles, the workload became too great and too varied, and new trades were created to repair the new equipment. [Skill at Arms]

The Armament Artificer (Electrical) was an RCOC trade created about 1943 to repair all types of electrical equipment in vehicles and buildings, except radios. Equipment included lighting systems, ignition systems, generators, chargers, circuit breakers, etc. It was a trade group A, based on the Electrician trade and a course at the Military College of Science. The minimum rank was a staff sergeant. [Skill at Arms]

When RCEME was created, [CARO 4230] transferred all RCOC Armament Artificers (Electrical) to RCEME.

[Trades 1944] lists the Armament Artificer (Electrical) trade as assigned to RCEME and based on the Electrician trade. However, [Trades 1944 AL 1] based the Armament Artificer (Electrical) trade on the Electrician (Vehicle and Plant) trade, which had replaced the Electrician trade.

During the Second World War, Armament Artificers (Electrical) could be found in third and fourth line RCEME workshops.

No details of a trades test, or content of the MCS course has been found.

[CARO 6579 (1946)] reclassified the Armament Artificer (Electrical) as a Group 4 trade.

[CAO 269-1 (1947)] renamed the trade as Electrical Artificer and confirmed it as a Group 4 trade.

[CAO 269-1 (1949)] confirmed the Electrical Artificer trade as a Group 4 trade assigned to RCEME.

[CAO 269-1 (1950)] listed the Electrical Artificer trade as a Group 4 trade assigned to RCEME.

[CAO 269-1 (1952)] listed the Electrical Artificer trade as a Group 4 trade assigned to RCEME.

A 1954 trade specification for the Electrical Artificer Group 4 trade has been placed on the RCEME Historical Database and on the Internet Archive.

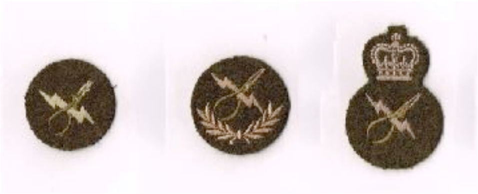
This trade is included in RCEME Technical Bulletin Vol. 6, No.1, February 1961, which listed all RCEME trades and common trades applicable to RCEME and their authorized trade groups in 1960.

On 13 July 1962, the Army Trades Committee agreed to a DEME request dated 27 June 1962 to change the appointment of Artificer to Engineering Technician, change the trade name of Artificer to Master Technician, and reduce the rank prerequisite to “hold the substantive rank of corporal”. Nine RCEME trades were involved. Accordingly, the Electrical Artificer was renamed Master Electrical Technician.

The Master Electrical Technician trade became part of the Electro-Mechanical Technician trade on on 1 October 1966.

See the Electro-Mechanical Technician trade.

Electrical Mechanic aka Electrical Technician



Electrical Mechanic
Group 1, Group 2, Group 3
(Courtesy Gord Goddard)

The predecessor trade was the Electrician Fitter. [Skill at Arms]

[Trades 1943] lists an Electrician (RCOC) trade.

When RCEME was created, [CARO 4230] transferred all RCOC Electricians (no specialty) to RCEME.

When RCEME was created, [CARO 4230] transferred to RCEME any RCASC Electricians (no specialty) who were in units that were converted to RCEME.

A CMHQ Sub Committee on RCEME trades on 3 August 1944 noted that the Electrician (MV) and Electrician (RCOC) trades had been deleted, and the trade Electrician had been adopted for all corps except RC Sigs. This trade was considered too broad, and it was considered necessary to divide the trade into Electrical (Vehicle and Plant) and Electrician (Control Equipment). The latter trade was necessary for RCEME because of the amount of predictor, sound location, and similar equipment in service. [LAC - Policy - Training of Tradesmen, RCEME]

[Trades 1944 AL 1] replaced the Electrician (RCEME) trade with the Electrician (Control Equipment) trade in January 1945.

[Trades 1944] lists the Electrician (Control Equipment) trade as applicable to RCEME.

During the Second World War, Electrician (Control Equipment) could be found in all lines of RCEME units.

The trade had three groups: C, B, and A.

[CARO 6579 (1946)] reclassified the Electrician (Control Equipment) trade as a Group 1, Group 2, Group 3 trade.

[CAO 269-1 (1947)] confirmed the Electrician (Control Equipment) trade as a Group 1, Group 2, Group 3 trade.

[CAO 269-1 (1949)] renamed the Electrician (Control Equipment) trade to Electrical Mechanic as a Group 1, Group 2, Group 3 trade assigned to RCEME. The Electrician (Control Equipment) trade does not appear and had apparently been renamed Electrical Mechanic.

[CAO 269-1 (1950)] listed the Electrical Mechanic trade as a Group 1, Group 2, and Group 3 trade assigned to RCEME.

[CAO 269-1 (1952)] listed the Electrical Mechanic trade as a Group 1, Group 2, and Group 3 trade assigned to RCEME.

There is an LAC file on the Electrical Mechanic. [LAC Reference: Policy of Training and Qualifications - Electrical Mechanic 1955-1960. RG24-C-1-c, Volume/box number 31362, File number 3202-E14.]

The 47th Meeting of the Army Trades Committee Sub Committee on 13 May 1954 noted that “Optical” was being removed from the trade name because the Instrument Mechanic (Electrical) was being renamed Electrical Mechanic and the differentiation was no longer required. A 1954 trade specification has been placed on the RCEME Historical Database and on the Internet Archive.

A 1954 trade specification for the Electrical Mechanic Group 1, Group 2, Group 3 trade has been placed on the RCEME Historical Database and on the Internet Archive.

The Electrical Mechanic trade is included in RCEME Technical Bulletin Vol. 6, No.1, February 1961, which listed all RCEME trades and common trades applicable to RCEME and their authorized trade groups in 1960.

At some time, the Electrical Mechanic trade was renamed Electrical Technician.

All Electrical Technicians and Instrument Technicians were remustered to Electro-Mechanical Technicians on 1 October 1966. [RCEME Technical Bulletin]

See the Electro-Mechanical Technician trade.

Electrical Mechanic (Militia)

The 174th meeting of the Army Trades Committee on 14 March 1962 approved the specification of the Electrical Mechanic (Militia) Group 1, Group 2 trade.

An undated trade specification for the Electrical Mechanic (Militia) Group 1 and Group 2 has been found and placed on the RCEME Historical Database and on the Internet Archive.

Electrician aka Electrician (RCOC) aka Electrician (RCEME)

The nomenclature of this trade is a bit inconsistent.

The predecessor trade was the Electrician Fitter. [Skill at Arms]

[Trades 1943] lists an Electrician (RCOC) trade.

When RCEME was created, the Electrician trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

When RCEME was created, [CARO 4230] transferred all RCOC Electricians (no specialty noted) to RCEME.

When RCEME was created, [CARO 4230] transferred to RCEME any RCASC Electricians (no specialty) who were in units that were converted to RCEME.

A CMHQ Sub Committee on RCEME trades on 3 August 1944 noted that the Electrician (MV) and Electrician (RCOC) trades had been deleted, and the trade Electrician had been adopted for all corps except RC Sigs. This trade was considered too broad, and it was considered necessary to divide the trade into Electrical (Vehicle and Plant) and Electrician (Control Equipment). The latter trade was necessary for RCEME because of the amount of predictor, sound location, and similar equipment in service. [LAC - Policy - Training of Tradesmen, RCEME]

[Trades 1944 AL 1] replaced the Electrician (RCEME) trade with the Electrician (Control Equipment) trade in January 1945.

During the Second World War, Electricians (RCEME) could be found in second, third and fourth line RCEME units.

The trade had three groups: C, B, and A.

See Electrician (Control Equipment).

Electrician RCOC Trade Test in 1943 [Trades 1943]

The trade had three levels: Group C, Group B, and Group A. To qualify for Group C, the candidate had to:

> Be able properly to use the blow torch, soldering iron, ladle for soldering, wire stripper, wire gauge, files, dies, taps, star drill, fish tape, mica undercutter, spirit level, and electric drill.
>
> Be able to keep in order and properly adjust the above tools. In addition to be able to care for rubber mats and gloves.
>
> Be able to splice, solder, tape conductors and fix lugs on; to cut, ream, thread and bend conduit; to handle B.X. and B.X.4 cable; to exchange lamp holders, wall switches, wall receptacles and fractional H.P. motors; to wire plug-ins and receivers; to test and inspect a panel or Square D switch for blown fuses and instal proper replacements; to dismantle electrical equipment and wash out parts and bearings; to clean out old coils from rotor or stator and assist in rewinding ; to prepare batteries for recharging.

Have a knowledge of common electrical terms and expressions ; wiring and wire sizes with their carrying capacity, wire colouring, conduit fittings and sizes of conduit; elementary knowledge of D.C. motors and generators with their grounding.

To qualify for Group B, the Candidate, in addition to the requirements for Group C, had to:

Be able to use ammeters, voltmeters, wattmeters, frequency meters and meggers.

Be able to care for any electrical tools and the electrical instruments noted above.

Be able to install a two wire circuit for light or power, special wiring such as two and three point switches, all types of regulators including voltage regulator, D.C. and A.C. generators, motors and motor starters; to analyze, correct faults, and maintain A.C. or D.C. equipment; to overhaul equipment ; to connect meters on any system; to re-connect motors for reverse rotation; to operate some type of prime mover; to take care of battery room and build up batteries; to make a sketch, plan or diagram; to read graphs and recording instruments.

Have a detailed knowledge of Ohms Law, resistance, E.M.F., current, D.C. theory, insulating and conducting materials, standard wire and cable sizes, filament and arc lamps; know how to splice cables and how to make simple calculations relating to the installation involved.

To qualify for Group A, the candidate, in addition to the requirements for Group C and Group B, had to:

Be able to use Wheatstone Bridge, Tachometer and Analyzer bench.

Be able to install a two and three wire D.C. and A.C. distribution system, single or three phase transformers, control relays, switchboards, lightning protection equipment and to maintain the same, to re-calibrate faulty instruments, to re-connect machines from one operating voltage to another; to test generators and motors, to inspect electrical equipment for care and maintenance; to give an estimate on electrical work as to material required and to prepare data for the installation of equipment and wiring for building; to manage and operate a small power plant and to rewind equipment.

Have general knowledge of converters, rectifiers, transformers, switchgear, control and protective gear, gaseous lamps, sub stations and transmission lines.

Electrician (Control Equipment)

When RCEME was created, the Electrician (Control Equipment) trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

The predecessor trade was the Electrician Fitter. [Skill at Arms]

[Trades 1943] lists an Electrician (RCOC) trade.

When RCEME was created, [CARO 4230] transferred all RCOC Electricians (no specialty) to RCEME.

When RCEME was created, [CARO 4230] transferred to RCEME any RCASC Electricians (no specialty) who were in units that were converted to RCEME.

A CMHQ Sub Committee on RCEME trades on 3 August 1944 noted that the Electrician (MV) and Electrician (RCOC) trades had been deleted, and the trade Electrician had been adopted for all corps except RC Sigs. This trade was considered too broad, and it was considered necessary to divide the trade into Electrical (Vehicle and Plant) and Electrician (Control Equipment). The latter trade was necessary for RCEME because of the amount of predictor, sound location, and similar equipment in service. [LAC - Policy - Training of Tradesmen, RCEME]

The 42nd Meeting of the Army Trades Committee on 2 November 1944 adopted the trade of Electrician (Control Equipment) for RCEME and Electrician (Vehicle and Plant) for RCEME and RCASC. The Electrician trade was reserved for the RCE, because it included more than mobile equipment. [LAC - Policy - Training of Tradesmen, RCEME]

[Trades 1944 AL 1] replaced the Electrician (RCEME) trade with the Electrician (Control Equipment) trade in January 1945.

[Trades 1944] lists the Electrician (Control Equipment) trade as applicable to RCEME.

During the Second World War, Electrician (Control Equipment) could be found in all lines of RCEME units.

The trade had three groups: C, B, and A.

[CARO 6579 (1946)] reclassified the Electrician (Control Equipment) trade as a Group 1, Group 2, Group 3 trade.

[CAO 269-1 (1947)] confirmed the Electrician (Control Equipment) trade as a Group 1, Group 2, Group 3 trade.

[CAO 269-1 (1949)] renamed the Electrician (Control Equipment) trade to Electrical Mechanic as a Group 1, Group 2, Group 3 trade assigned to RCEME.

See the Electrical Mechanic trade.

Electrician (Control Equipment) Trade Test in 1944 [Trades 1944 Amdt. No. 1/ January 45]

The trade had three levels: Group C, Group B, and Group A. To qualify for Group C, the candidate had to:

Understand working drawings and sketches, dimensioned in decimals or fractions, of simple mechanical parts and of electrical circuits; be able to make simple sketches, and be familiar with all standard threads utilized in the trade.

Be able to use correctly and keep in good order: files, chisels, hacksaws, drills, taps and dies, soldering irons, blow lamps, pliers, screwdrivers and all electricians' tools, normally supplied and be able to:

> Carry out light fitting, including drilling and tapping in mild steel and brass.
>
> Make and insulate, as necessary, sound soldered joints in small wires, single and multiple cables, and sweat thimbles and lugs to cables.
>
> Make soldered joints in copper and brass sheet and light brazed joints in copper, brass and mild steel sheet.

Have a working knowledge of the uses and limitations of the common types of voltmeters, ammeters, ohmmeters and meggers.

Have a working knowledge of primary cells, and be able to charge and maintain accumulators.

Understand the current carrying capacity of cables and fuses and be able to connect up correctly, under supervision and with the aid of drawings and diagrams, as necessary, any D.C. apparatus (including motors and starters) used in a normal workshop.

Have a good working knowledge of the elementary principles of magnetism and electricity - A.C. and D.C.; understand how thermionic valves (including thyratrons) operate. (No reference should be made to RJ1.)

Have a working knowledge of the construction, testing and maintenance of small electrical machines and apparatus, such as switch-gear, relays, etc., and of primary and secondary cells.

> Have a working knowledge of electrical predictors (down to sub-assemblies) electrical fuse setters, power ramming equipment, ARX. remote control systems and A.R.C. systems.
>
> Have a working knowledge of the principles of construction and operation of the electrical portion of the various sound locators (excluding V.IJB.) control gears and telephone sets.
>
> Be able to test and diagnose faults, in the above equipment (excluding sub-assemblies of electrical predictors) and rectify simple faults, carry out maintenance and the more common adjustments and repairs.

Be acquainted with the technical repair pamphlets used in connection with the above equipment.

To qualify Group B, the candidate in addition to the requirements for Group C, had to:

Be able to read quickly, and work accurately to, working drawings and sketches, dimensioned in decimals or fractions, of mechanical parts and electrical circuits.

Be able to carry out correctly, neatly and quickly, the wiring up of electrical apparatus, according to drawings and sketches.

Have a thorough knowledge of the elementary principles of magnetism and electricity A.C. and D.C., and understand how thermionic valves (including thyratrons) amplify at low frequencies. (No reference should be made to R.F.)

Have a thorough understanding of the uses of voltmeters, ammeters, meggers, ohmmeters, and any other test instruments supplied with the equipment, and be able to test and adjust voltmeters and ammeters, against a sub-standard instrument.

> Be thoroughly familiar with the principles of construction and operation of the electrical portion of sound locators, control gear, and telephone sets.
>
> Have a full knowledge of electrical predictors (down to sub- assemblies), electrical fuse setters power ramming equipment, A.R.L. remote control systems, and A.R.C. systems.
>
> Be able to test and diagnose faults in the above equipment, rectify simple faults, also carry out maintenance and the more common adjustments and repairs.

Be familiar with the technical repair pamphlets used in connection with the above equipment.

Understand the basic principles and circuits of the A.C. and D.C. generators, motors and starters, and associated switchboard equipments, normally maintained by his arm of the service.

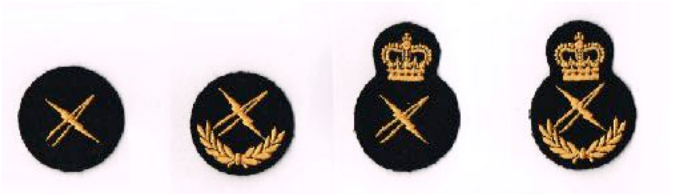
To qualify Group A, the candidate, in addition to the requirements for Group C and Group B, had to:

Have a good practical knowledge of A.C. and D.C. electrical technology.

Be able to deal expertly, expeditiously, and skilfully with any test, repair, or installation problem that arises on the equipment, referred to above, as dealt with by his unit.

Be able to test, inspect, and report accurately with sketches, as necessary, on the condition of any electrical equipment, for which his unit is responsible.

Electronic-Optronic Technician (Land) (Post-Unification)



Fire Control Technician (Electronic)
QL3, QL4, QL5, QL6A
(DP 1.1. DP1.2, DP2, DP3)
(Courtesy Gord Goddard)

With the integration and Unification of the Armed Forces in the 1960s, all of the existing electrical and instrument trades were either eliminated or combined into the new Electro-Mechanical Technician trade. Given the dissimilarity of the work performed by the old instrument and electrical trades, the forced marriage frequently resulted in frustration for the Craftsman.

All Instrument Technicians, Master Instrument Technicians, Electrical Technicians, and Master Electrical Technicians were remustered to the Electro-Mechanical Technician 431 trade on 1 October 1966. [RCEME Technical Bulletin, Vol. 11, No. 4, October 1966]

From 1968 to 1978, there was a tremendous increase in the scope of repair and the level of technology assigned to this trade, particularly with the introduction of many electronic systems. It became extremely difficult to conduct adequate training in the time available, and still maintain the level of expertise required for modern electro-optical systems equipment.

Starting in 1978, the single-trade structure was replaced by four occupation career fields. The basic TQ3 - TQ4 level was the ELM Technician MOC 431. This then split into two TQ5 - TQ6B occupations: the Fire Control Technician (Electronic) (MOC 432) and the Fire Control Technician (Optronic) (MOC 433). At the TQ7 level, these merged and became the Fire Control Systems Technician (MOC 435). [LORE Technical Bulletin 1982/2]

An Occupational Specification for the Fire Control Technician (Electronic), MOC 432, (A–PD–055–002/PP–002) has been placed on the RCEME Historical Database and on the Internet Archive.

An Occupational Specification for the Fire Control Technician (Optronic), MOC 433, (A–PD–055–002/PP–002) has been placed on the RCEME Historical Database and on the Internet Archive.

An Occupational Analysis in 1995-96 recommended that the occupations be merged into one occupation (FCS Technician MOC 434). This took place on 1 January 1999. [EME Journal, No. 1, 1999]

On 26 April 2005, the EME Branch Advisor proposed to change the name of the FCS Technician occupation to Electronic Optronic Technician (Land). The reason was that the Fire Control Systems name was a problem at the recruiting level. Potential recruits confused fire control systems with fire fighting. The Corps of RCEME at the time believed that a change of name was crucial to increase attraction and improve marketing of the trade. In 2006, the FCS Technician was renamed to an Electronic Optronic Technician (Land). There was no change to the Occupation Specification. [RCEME Journal, No. 2, 2014]

Details about the Electronic-Optronic Technician (Land) are in Chapter 4.

See the Fire Control Technician Fire Control Technician (Optronic) (1978).

See the Fire Control Technician Fire Control Technician (Electronic) (1978).

See the Fire Control Systems Technician 435 (1978)

Occupation Summary 2021

The primary responsibility of the Electronic-Optronic Technician (Land) (EO Technician L) is to inspect, adjust, troubleshoot, repair, rebuild, sodify and overhaul of electrical, electronic, optical and optronic systems, fire control Systems (FCS), power generation and distribution equipment and all other assigned equipment used by the Canadian Armed Forces. This includes first, second and third level preventative and corrective maintenance as well as pre-fire checks, trials, evaluations and modifications.

To accomplish this, the EO Technician L must have the skills, ability, expertise and cognitive capacity to monitor, inspect, test, diagnose faults, adjust, repair, recondition and modify equipment. To do so, the EO Technician L must acquire and retain comprehensive knowledge of the operation, maintenance and repair procedures of all the assigned equipment/vehicles.

The EO Technician L must inspect, monitor, maintain and repair the following equipment:

> Surveillance, thermal observation systems, satellite navigation systems and FCS for all Light Armoured Vehicle (LAV) Family of Vehicles (FoV);
>
> FCS for towed howitzers;
>
> FCS for vehicle mounted remote weapon systems (RWS);
>
> FCS for ground mounted weapon systems such as the Close Area Suppression Weapon (CASW);
>
> Active protective systems;
>
> Robotic systems;
>
> Geomatic equipment;
>
> Explosive ordnance disposal (EOD) electronic equipment;
>
> Electronic chemical and biological detection and monitoring devices;
>
> Mine detection devices;
>
> Portable observation devices (thermal and low light level);
>
> Day sighting and observation devices (binocular and telescope);
>
> Mechanical instruments (scales, clinometers, quadrants and adaptors);

Fiber-Optic systems (FO) within a variety of equipment;

LASER systems (range finders and designators);

Electronic training simulator systems;

Tactical heating, ventilating and air conditioning (HVAC) systems;

Electric motors, welding equipment, electric heaters and appliances;

Portable and mobile tactical power-generating systems;

Field power distribution systems; and

Battery chargers and power supplies.

Other Duties include:

Conducting inspections and repairs for quality control on components and sub components for various units;

Preparing written inspection reports using Canadian Forces Technical Orders (CFTO) instructions, original equipment manufacturer (OEM) manuals and returns parts while maintaining detailed records;

Input maintenance related data;

Produce technical drawings and schematics;

Manufacture various parts and components using various materials;

Test, replace and dispose of radioactive illuminating devices;

Providing information for and writing problem reports; and

Ensure all EO Technician L support equipment is calibrated and maintained in a serviceable condition.

Operates, calibrates and maintains general-purpose and specialized tools and test equipment, such as:

Optical, optronic, electrical and electronic test equipment;

Laser calibrating and testing kits;

Bore sighting equipment; and

Collimating equipment.

Electrician (Vehicle and Plant) aka Electrician (MV)

When RCEME was created, the Electrician (Vehicle and Plant) trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

The trade was created in late 1942 to repair the electrical problems in vehicles. Tradesmen had to be qualified vehicle mechanics. [Skill at Arms]

On the creation of RCEME, [CARO 4431] transferred all RCOC Electricians (MV) to RCEME.

However, [Trades 1944] lists the Electrician (MV) trade as applicable to the CAC, RCASC, and CFC.

No trades specification for the Electrician (MV) has been found.

A CMHQ Sub Committee on RCEME trades on 3 August 1944 noted that the Electrician (MV) and Electrician (RCOC) trades had been deleted, and the trade Electrician had been adopted for all corps except RC Sigs. This trade was considered too broad, and it was considered necessary to divide the trade into Electrical (Vehicle and Plant) and Electrician (Control Equipment). The latter trade was necessary for RCEME because of the amount of predictor, sound location, and similar equipment in service. [LAC - Policy - Training of Tradesmen, RCEME]

The 42nd Meeting of the Army Trades Committee on 2 November 1944 adopted the trade of Electrician (Control Equipment) for RCEME and Electrician (Vehicle and Plant) for RCEME and RCASC. The Electrician trade was reserved for the RCE, because it included more than mobile equipment. [LAC - Policy - Training of Tradesmen, RCEME]

[Trades 1944 AL 1] replaced the Electrician (MV) trade with the Electrician (Vehicle and Plant) trade in January 1945.

[Trades 1944 AL 1] lists the Electrician (Vehicle and Plant) trade as applicable to the CAC, RCASC, CFC, and RCEME.

During the Second World War, Electricians (Vehicle and Plant) could be found in Type “E” and “F” LADs and in fourth line RCEME units.

The Electrician (Vehicle and Plant) trade had three groups: C, B, and A.

[CARO 6579 (1946)] reclassified the Electrician (Vehicle and Plant) trade as a Group 2, Group 3 trade.

[CAO 269-1 (1947)] confirmed the Electrician (Vehicle and Plant) trade as a Group 2, Group 3 trade.

[CAO 269-1 (1949)] does not list the Electrician (Vehicle and Plant) trade. It was apparently replaced by the Electrician trade that was assigned to RCE.

Electrician (Vehicle and Plant) Trade Test in 1944 [Trades 1944 Amdt. No. 1/January 45]

The trade had three levels: Group C, Group B, and Group A. To qualify for Group C, the candidate had to:

Understand working drawings and sketches, dimensioned in decimals or fractions, of simple mechanical parts and of electrical circuits; be able to make simple sketches and be familiar with all standard threads, utilized in the trade.

Be able to use correctly and keep in good order: files, chisels, hacksaws, drills, taps and dies, soldering irons, blow lamps, pliers, screwdrivers, and all electricians' tools, normally supplied, and be able to:

> Carry out light fitting, including drilling and tapping in mild Steel and brass.
>
> Make and insulate, as necessary, sound soldered joints in small wires, single and multiple cables, and sweat thimbles and lugs to cables.
>
> Make soldered joints in copper and brass sheet and light brazed joints in copper, brass and mild steel sheet.

Have a working knowledge of the elementary principles of magnetism and of direct current circuits, and simple terminology.

Have a working knowledge of the uses and limitations of the common types of voltmeters, ammeters, ohmmeters, and meggers.

Have a working knowledge of primary cells, and be able to charge and maintain accumulators.

Understand the current carrying capacity of cables and fuses, and be able to connect up correctly, under supervision, and with the aid of drawings and diagrams, as necessary, any D.C. apparatus (including motors and starters) used in a normal workshop.

Be able to rewire any circuit on any motor vehicle or A.F.V. used or maintained by his unit.

Have a working knowledge of the functions of all components of ignition, lighting and starting sets, as used on vehicles, including cut-outs and compensated voltage controls.

Be able, quickly and reliably, to test, diagnose, and rectify all simple faults in the equipment mentioned above.

To qualify Group B, the candidate in addition to the requirements for Group C, had to:

Have a good working knowledge of the principles of electricity and magnetism, A.C. or D.C. or both, as applicable.

Understand the basic principles and circuits of the A.C. or D.C. generators, motors and starters, and associated switchboard equipments, normally maintained by his arm of the service.

Be able to test, overhaul, and repair any component of ignition, starting and lighting sets, in any type of vehicles, used or maintained in his unit. (Re-winding magneto armatures and coil excepted.)

Be able to charge correctly any type of accumulator (including preparation for and initial charge), diagnose common faults, and carry out standard repairs, including lead burning connections.

Be able to test, repair, and overhaul any electrical equipment or plant used or maintained by his unit.

Be able to make and read wiring diagrams of vehicle and workshop electrical circuits and be able to wire expertly any circuit in a vehicle or workshop.

Have a working knowledge of the starting, running, and unit maintenance of small I.C. charging sets.

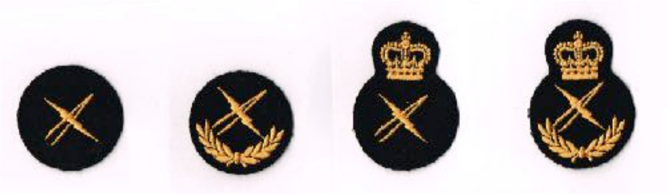
To qualify Group A, the candidate in addition to the requirements for Group C and Group B, had to:

Have a practical knowledge of A.C. or D.C. electrical technology.

Be able to deal expertly, expeditiously and skilfully with any test, repair or installation problem that arises on the equipment dealt with by his unit.

Be able to test, inspect and report accurately, with sketches, as necessary, on the condition of any electrical equipment for which his unit is responsible.

Electro-Mechanical Technician 431 (Post-Unification)



Electronic-Optronic Technician (Land)
QL3, QL4, QL5, QL6A
(DP 1.1. DP1.2, DP2, DP3)
(Courtesy Gord Goddard)

With the integration and Unification of the Armed Forces in the 1960s, all of the existing electrical and instrument trades were either eliminated or combined into the new Electro-Mechanical Technician trade. Given the dissimilarity of the work performed by the old instrument and electrical trades, the forced marriage frequently resulted in frustration for the Craftsman.

All Instrument Technicians, Master Instrument Technicians, Electrical Technicians, and Master Electrical Technicians were remustered to the Electro-Mechanical Technician 431 trade on 1 October 1966. [RCEME Technical Bulletin, Vol. 11, No. 4, October 1966]

From 1968 to 1978, there was a tremendous increase in the scope of repair and the level of technology assigned to this trade, particularly with the introduction of many electronic systems. It became extremely difficult to conduct adequate training in the time available, and still maintain the level of expertise required for modern electro-optical systems equipment.

Starting in 1978, the single-trade structure was replaced by four occupation career fields. The basic TQ3 - TQ4 level was the ELM Technician MOC 431. This then split into two TQ5 - TQ6B occupations: the Fire Control Technician (Electronic) (MOC 432) and the Fire Control Technician (Optronic) (MOC 433). At the TQ7 level, these merged and became the Fire Control Systems Technician (MOC 435). [LORE Technical Bulletin 1982/2]

An Occupational Specification for the Fire Control Technician (Electronic), MOC 432, (A–PD–055–002/PP–002) has been placed on the RCEME Historical Database and on the Internet Archive.

An Occupational Specification for the Fire Control Technician (Optronic), MOC 433, (A–PD–055–002/PP–002) has been placed on the RCEME Historical Database and on the Internet Archive.

An Occupational Analysis in 1995-96 recommended that the occupations be merged into one occupation (FCS Technician MOC 434). This took place on 1 January 1999. [EME Journal, No. 1, 1999]

On 26 April 2005, the EME Branch Advisor proposed to change the name of the FCS Technician occupation to Electronic Optronic Technician – Land. The reason was that the Fire Control Systems name was a problem at the recruiting level. Potential recruits

confused Fire Control Systems with Fire Fighting. The Corps of RCEME at the time believed that a change of name was crucial to increase attraction and improve marketing of the trade. In 2006, the FCS Technician was renamed to an Electronic Optronic Technician. There was no change to the Occupation Specification. [RCEME Journal, No. 2, 2014]

Details about the Electro-Mechanical Technician are in Chapter 4.

See the Fire Control Technician Fire Control Technician (Optronic) (1978).

See the Fire Control Technician Fire Control Technician (Electronic) (1978).

See the Fire Control Systems Technician 435 (1978)

See the Electronic-Optronic Technician (Land)

Electroplater

When RCEME was created, the Electroplater trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

When RCEME was created, [CARO 4230] transferred all RCOC Electroplaters to RCEME.

[Trades 1944] lists the Electroplater trade as applicable to RCEME.

During the Second World War, Electroplaters could be found in fourth line RCEME units.

The trade had two groups: C and B.

On 15 June 1945, DEME advised the Director of Military Training that there were no Electroplater in the RCEME Home War Establishments (ie, in Canada), and that it was unlikely that they would be added to the establishments in Canada in the future. [LAC - Policy - Training of Tradesmen, RCEME]

[CARO 6579 (1946)] deleted the Electroplater trade.

Electroplater Trade Test in 1944 [Trades 1944]

The trade had two levels: Group C and Group B. To qualify for Group C, the candidate had to:

> Have a fair knowledge of elementary electrical theory including Ohm’s Law and its application.
>
> Have a practical knowledge of the wiring of simple electrical circuits.
>
> Have a fair knowledge of maintenance and care of D.C. and A.C. motors, generators and associated switchgear and regulators.
>
> Have a fair chemical knowledge of the common plating and cleansing solutions normally used in electroplating, including hydrometer and pH tests of the solution.
>
> Have a fair knowledge of the effects of “shading” and piling and how to recognize and avoid them.
>
> Have a fair knowledge of the difference in throwing power obtained by variations of temperature, agitation of bath and the use of different current densities.

To qualify for Group B, the candidate, in addition to the requirement for Group C, had to:

> Have not less than two years experience in electroplating either as a charge hand or the recognized equivalent.
>
> OR
>
> Be able to furnish satisfactory proof of having attended a course of instruction in electro-deposition for not less than two years at a recognized technical training establishment embodying practical experience in the operation of a plating plant on a commercial basis.

Have a good knowledge of:

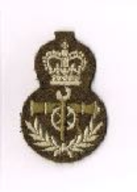
Use of various materials for the anode and the various methods employed in building up worn parts.

The effects of “shading” and “piling” and how to avoid them.

Hydrometer, thermometer and pH tests of the common plating solutions.

Effects of different current densities and sulphate concentration of the bath and the throwing power of different solutions.

Fire Control System Artificer (Anti-aircraft) aka Master Fire Control System Technician



Fire Control System Artificer (Anti-aircraft)
Group 4

(Courtesy Gord Goddard)

This is a postwar trade.

The 140th meeting of the Army Trades Committee on 30 November 1954 approved the new trade of Fire Control System Artificer (Anti-Aircraft) Group 4 to repair the M33 Fire Control System. A trade specification has been placed on the RCEME Historical Database and on the Internet Archive. [LAC-ATC]

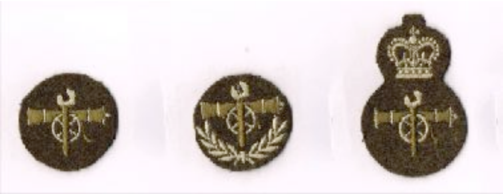
A memo in June 1960 noted that the Fire Control System Artificer (Anti-aircraft) and Fire Control System Technician (Anti-aircraft) were not being fully employed because most of the equipment on which the trade was based had been removed from service. [RCEME Archives]

This trade is included in RCEME Technical Bulletin Vol. 6, No.1, February 1961, which listed all RCEME trades and common trades applicable to RCEME and their authorized trade groups in 1960.

On 13 July 1962, the Army Trades Committee agreed to a DEME request dated 27 June 1962 to change the appointment of Artificer to Engineering Technician, change the trade name of Artificer to Master Technician, and reduce the rank prerequisite to "hold the substantive rank of corporal". Nine RCEME trades were involved. Accordingly, the Fire Control System Artificer was renamed Master Fire Control System Technician.

On 16 January 1964, the Army Trades Committee agreed to a DEME request to delete the Master Fire Control System Technician trade. [LAC - ATC]

Fire Control System Technician (Anti-aircraft)



Fire Control System Technician (Anti-aircraft)
Group 1, Group 2, Group 3
(Courtesy Gord Goddard)

This is a postwar trade.

The 140th meeting of the Army Trades Committee on 30 November 1954 approved the new trade of Fire Control System Technician (Anti-Aircraft) Group 1, Group 2, Group 3 to repair the M33 Fire Control System. A trade specification has been placed on the RCEME Historical Database and on the Internet Archive and on the Internet Archive. [LAC-ATC]

The Fire Control System Technician (Anti-aircraft) wore the Weapons Technician badge [Skill at Arms].

In 1955, the Radio Technician, Radar Technician, Fire Control System Technician (AA) and Communication Systems Technician shared a common Group 1 trades specification. A copy has been placed on the RCEME Historical Database and on the Internet Archive and on the Internet Archive.

There is an LAC file for the Fire Control System Technician (Anti-aircraft). [LAC Reference: Policy of Training and Qualifications - Fire Control System Technician (AA) 1955-1959. RG24-C-1-c, Volume/box number 31362, File number 3202-F9.]

A trade specification for the Fire Control System Technician (Anti-aircraft) Group 2 has been found and placed on the RCEME Historical Database and on the Internet Archive and on the Internet Archive.

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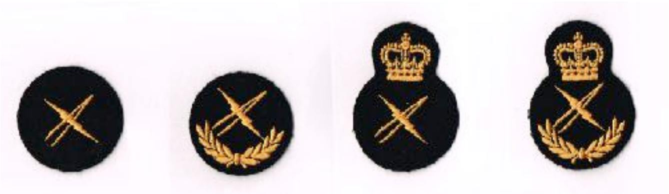
Fire Control Systems Technician 435 (1978)



Fire Control Technician (Electronic)
QL3, QL4, QL5, QL6A
(DP 1.1. DP1.2, DP2, DP3)
(Courtesy Gord Goddard)

With the integration and Unification of the Armed Forces in the 1960s, all of the existing electrical and instrument trades were either eliminated or combined into the new Electro-Mechanical Technician trade. Given the dissimilarity of the work performed by the old instrument and electrical trades, the forced marriage frequently resulted in frustration for the Craftsman.

All Instrument Technicians, Master Instrument Technicians, Electrical Technicians, and Master Electrical Technicians were remustered to the Electro-Mechanical Technician 431 trade on 1 October 1966. [RCEME Technical Bulletin, Vol. 11, No. 4, October 1966]

From 1968 to 1978, there was a tremendous increase in the scope of repair and the level of technology assigned to this trade, particularly with the introduction of many electronic systems. It became extremely difficult to conduct adequate training in the time available, and still maintain the level of expertise required for modern electro-optical systems equipment.

Starting in 1978, the single-trade structure was replaced by four occupation career fields. The basic TQ3 - TQ4 level was the ELM Technician MOC 431. This then split into two TQ5 - TQ6B occupations: the Fire Control Technician (Electronic) (MOC 432) and the Fire Control Technician (Optronic) (MOC 433). At the TQ7 level, these merged and became the Fire Control Systems Technician (MOC 435). [LORE Technical Bulletin 1982/2]

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An Occupational Analysis in 1995-96 recommended that the occupations be merged into one occupation (FCS Technician MOC 434). This took place on 1 January 1999. [EME Journal, No. 1, 1999]

On 26 April 2005, the EME Branch Advisor proposed to change the name of the FCS Technician occupation to Electronic Optronic Technician – Land. The reason was that the Fire Control Systems name was a problem at the recruiting level. Potential recruits

confused Fire Control Systems with Fire Fighting. The Corps of RCEME at the time believed that a change of name was crucial to increase attraction and improve marketing of the trade. In 2006, the FCS Technician was renamed to an Electronic Optronic Technician. There was no change to the Occupation Specification. [RCEME Journal, No. 2, 2014]

Details about the Fire Control Systems Technician 435 are in Chapter 4.

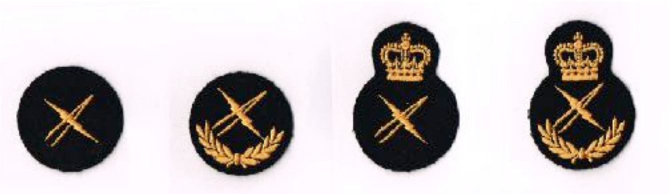
See the Fire Control Technician Fire Control Technician (Optronic) (1978).

See the Fire Control Technician Fire Control Technician (Electronic) (1978).

See the Fire Control Systems Technician 435 (1978)

See the Electronic-Optronic Technician (Land)

Fire Control Technician (Electronic) 432 (1978)



Fire Control Technician (Electronic)
QL3, QL4, QL5, QL6A
(DP 1.1. DP1.2, DP2, DP3)
(Courtesy Gord Goddard)

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Details about the Fire Control Technician Fire Control Technician (Electronic) are in Chapter 4.

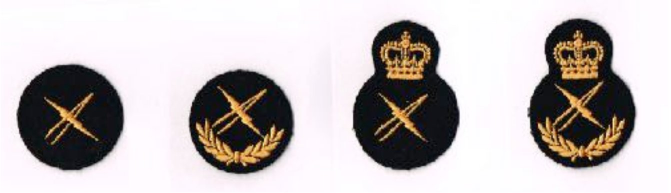
See the Fire Control Technician Fire Control Technician (Optronic) (1978).

See the Fire Control Technician Fire Control Technician (Electronic) (1978).

See the Fire Control Systems Technician 435 (1978)

See the Electronic-Optronic Technician (Land)

Fire Control Technician (Optronic) 433 (1978)



Fire Control Technician (Electronic)
QL3, QL4, QL5, QL6A
(DP 1.1. DP1.2, DP2, DP3)
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Details about the Fire Control Technician Fire Control Technician (Optronic) are in Chapter 4.

See the Fire Control Technician Fire Control Technician (Optronic) (1978).

See the Fire Control Technician Fire Control Technician (Electronic) (1978).

See the Fire Control Systems Technician 435 (1978)

See the Electronic-Optronic Technician (Land)

Fitter

About 1943, the Fitter trade had too large a span of technology and was split into the Fitter, Fitter (AFV) and Fitter (MV) trades. (See separate entries for those trades.)

When RCEME was created, the Fitter trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

When RCEME was created, [CARO 4230] transferred all RCOC Fitters to RCEME.

[Trades 1944] lists the Fitter trade as applicable to RCA, RCE, and RCEME.

During the Second World War, Fitters could be found in first, second, third, and fourth line RCEME units.

The Fitter trade had three groups: C, B, and A.

[CARO 6579 (1946)] reclassified the Fitter trade as a Group 1, Group 2, Group 3 trade.

[CAO 269-1 (1947)] confirmed the Fitter trade as a Group 1, Group 2, Group 3 trade.

[CAO 269-1 (1949)] confirmed the Fitter trade as a Group 1, Group 2, Group 3 trade assigned to RCEME, but also open to CAC, RCA, RCE, RC Sigs, and RCASC.

[CAO 269-1 (1950)] listed the Fitter trade as a Group 1, Group 2, Group 3 trade assigned to RCEME. The Fitter Group 1 trade also served as the Armourer Group 1 trade [RCEME ARCHIVES - Fitter Training General].

[CAO 269-1 (1952)] listed the Fitter trade as a Group 1, Group 2, Group 3 trade assigned to RCEME.

There is an LAC file on the Fitter trade. [LAC Reference: Policy of Training and Qualifications - Fitters 1949-1950. RG24-C-1-c, Volume/box number 31362, File number 3202-F18.]

Relevant documents have been placed on the RCEME Historical Database and on the Internet Archive.

The 126th Meeting of the Army Trades Committee on 26 June 1952 approved the creation of the Gun Mechanic Group 1, Group 2, Group 3 trade, and the Machinist Fitter Group 1, Group 2, Group 3 trade that together replaced the Fitter Group 1, Group 2, Group 3 trade. [LAC - ATC]

See the Gun Mechanic and Machinist Fitter trades.

Fitter Trade Test in 1944 [Trades 1944 Amdt. No. 1/January 45]

The trade had three levels: Group C, Group B, and Group A. To qualify for Group C, the candidate had to:

> Be able, in a workmanlike manner, and within the degree of accuracy shown below:
>
> > To mark off and chip a through keyway 1-inch wide, 1-inch deep in a piece of rolled steel bar 1-inch to 2-inch diameter and: 2-inch long to within an accuracy of-inch No file to be used. Nominal time 2 hours

To file a flat edge at right-angles to a finished surface within a limit of 0.002-inch.

To file and scrape a flat surface or edge of approximately two square inches in area, taking a nominal time of 11 hours to complete.

To mark out and drill holes, and tap them square to the surface.

To scrape a suitably prepared white metal half-bearing to a shaft, taking a nominal time of 1 hr to complete.

Be able to work to a simple sketch or blue print, dimensioned in either the fractional or decimal system, and to mark off accurately from it.

Be able to use, in an experienced manner, all tools in ordinary use by fitters, and be able to grind and sharpen scrapers, chisels and drills.

To qualify for Group B, the candidate in addition to the requirements for Group C:

Be able to file and scrape work to a finish of 0.002 inch on faces to any specified angle.

Have a good knowledge of and be able to use micrometer, vernier and feeler gauges.

Be able to read drawings dimensioned in either the fractional or decimal system.

Be able to chip to a given contour.

Be able to do ordinary marking-off on a surface table.

Be able to drill square to a true surface two 1-inch holes, accurately pitched to within 0.03 inch.

Be able to operate any hand tool in use in his unit.

Have a good knowledge of and be able to dismantle, overhaul and re-assemble, any one type of prime mover (internal combustion or steam, or, alternatively, guns) and have a knowledge of the principles of construction and action of all types normally in use by his Corps.

Be able to erect and install correctly any one type of power driven machine with which his Corps is concerned.

Be able to make dimensioned sketches.

To qualify for Group A, the candidate, in addition to the requirements for Group B:

Be able to perform in a thoroughly skilled and expeditious manner the fitting, overhauling and erecting of any prime mover and mechanism with which his Corps is concerned.

Be able to prepare for test, and test, the machines, or self-propelled vehicles, normally in use by his Corps.

Have a knowledge of the principles of construction and action of all types of power driven machines with which his Corps is concerned.

Note - Alternatively, for machines and prime movers, read guns, breech mechanisms, hydraulic recuperators, etc.

Fitter (AFV)

The Fitter (AFV) trade was originally open to the RCOC. [Trades 1944]

When RCEME was created, the Fitter (AFV) trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

When RCEME was created, [CARO 4230] transferred all RCOC Fitters (AFV) to RCEME.

[Trades 1944] lists the Fitter (AFV) trade as applicable to RCEME.

During the Second World War, Fitters (AFV) could be found in all lines of RCEME units that supported Armoured Fighting Vehicles.

The Fitter (AFV) trade had three groups: C, B, and A.

[Trades 1944 AL 1] replaced the Fitter (AFV) trade with the Vehicle Mechanic (AFV) (MV) in January 1945.

See the Vehicle Mechanic (AFV) (MV) trade.

Fitter (AFV) Trade Test in 1944 [Trades 1944]

The trade had three levels: Group C, Group B, and Group A. To qualify for Group C, the candidate had to:

> Use all the hand tools of his trade with which his unit is issued.
>
> Use a file and carry out simple fitting work.
>
> Drill and tap holes and do simple soldering operations.
>
> Use feeler gauges.
>
> Must have a good working knowledge of the functions of the various assemblies and components of Armoured Fighting Vehicles.
>
> Must be able to carry out under supervision repairs to components as indicated below:
>
> Engine: disassembly and reassembly of minor components; decarbonize and grind-in valves; valve and ignition timing; replacement of any components using hand tools provided.
>
>> Carburetor: adjustments; disassembly and reassembly; change of defective parts.
>>
>> Fuel System: maintenance of primer, fuel strainer, and shut off valves.
>>
>> Clutch and Prop Shaft: adjustments, disassembly and reassembly; change of defective parts.
>>
>> Transmission: maintenance and component exchange in vehicle.
>>
>> Differential and Final Drive: adjustments to steering brakes; removal and replacement of complete unit in vehicle.

Tracks and Suspension: overhaul of bogie assemblies; removal and replacement of idlers and drive sprockets; replacement of track shoes; adjustments to tracks.

Electrical Equipment: removal and replacement of batteries and battery switches; change fuses; 1st echelon maintenance.

Auxiliary Generating Plant: general maintenance; removal and replacement of unit in vehicle.

To qualify for Group B, the candidate, in addition to the requirements for Group C, must be able to:—

Use micrometer gauges.

Make rough dimensioned sketches and read simple drawings.

Anneal and bend copper piping used in “A” vehicles.

Dismantle, replace parts, reassemble and adjust all vehicle components except electrical equipment.

Must be able to carry out repairs on the following items to the extent indicated: adjustments, location of faults, replacement of brushes and contacts.

Magnetos

Starters

Generators

Regulators

Auxiliary Generating Units

Must have a good knowledge of the various working clearances allowed for correct fitting of engine and other components.

Must qualify in the test laid down for Standing Orders for Drivers (A.F.V.).

To qualify for Group A, the candidate, in addition to the requirements of Group C and Group B, must be able to:

Use and care for special equipment such as valve re-facers, brake lining machines, boring bars, valve seat re-facers, arbor presses and other specialized equipment used in automotive repair.

Carry out simple machining operations on a lathe, e.g. shim valves, true up brake drums by turning, etc.

Rebuild motors, i.e. rebore and fit new rings, pistons, etc., refit and align crankshaft bearings, test crankshaft for alignments.

Strip completely, overhaul and reassemble any mechanical assembly of “A” vehicles.

Must have a complete working knowledge of the electrical equipment of an “A” vehicle and be able to diagnose faults.

Must be able to carry out complete inspections of “A” vehicles and fill in the appropriate inspection reports.

Fitter (MV)

When RCEME was created, the Fitter (MV) trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

When RCEME was created, [CARO 4230] transferred all RCOC Fitters (MV) to RCEME.

When RCEME was created, [CARO 4230] transferred to RCEME any RCASC Fitters (MV) who were in units that were converted to RCEME.

[Trades 1944] lists the Fitter (MV) trade as applicable to RCEME, CAC (Recce), CAC, RCA, RCE, RCASC, and CFC.

During the Second World War, Fitters (MV) could be found in all lines of RCEME units.

The Fitter (MV) trade had three groups: C, B, and A.

[Trades 1944 AL 1] replaced the Fitter (MV) trade with the Vehicle Mechanic (AFV) (MV) in January 1945.

See the Vehicle Mechanic (AFV) (MV) trade.

Fitter (MV) Trade Test in 1944 [Trades 1944]

The trade had three levels: Group C, Group B, and Group A. To qualify for Group C, the candidate had to:

> Know the names of and be able to use all the hand tools of his trade.
>
> Be able to do simple soldering and filing, to drill and tap holes and do threading.
>
> Be able to carry out under supervision, the dismantling, repairing. assembling and adjustments of all vehicle components.
>
> Be able to reseat, grind and adjust valves.
>
> Be able to drive the vehicles of his Arm efficiently.
>
> Have a working knowledge of the construction and the principles of all vehicle components.
>
> Know principles of lubrication, all points of lubrication and the proper lubricants to use.

To qualify for Group B, the candidate, in addition to the requirements for Group C, had to:

> Know the names of and be able to use the tools and equipment of his trade and know how to care for same and in addition have passed Fitter Group C trade test.
>
> Be able to make rough dimensioned sketches and read simple drawings.
>
> Be able to dismantle, repair, assemble and adjust all vehicle components except voltage regulator and carburettor.
>
> Have a good working knowledge of the functions of the various assemblies and components of motor vehicles.

To qualify for Group A, the candidate, in addition to the requirements for Group B and Group C, had to:

> Know the names of and be able to use and care for special equipment such as, valve re-facer, brake lining machine, boring bar, valve seat re-seater, arbor presses and other special automotive equipment.
>
> Be able to use micrometer and universal test gauges and have a good knowledge of clearances allowed for correct fitting and adjustment of all parts of vehicles of his Arm.

Foreman, Departmental

[CARO 4230] does NOT include the Foreman, Departmental trade in the transfer of trades to RCEME.

However, [Trades 1944] lists the Foreman, Departmental trade as applicable to RCEME, RCOC, and CWAC.

During the Second World War, no evidence of a Foreman, Departmental has been found in a RCEME unit establishment.

On 15 June 1945, DEME advised the Director of Military Training that there were no Foreman, Departmental in the RCEME Home War Establishments (ie, in Canada), and that it was unlikely that they would be added to the establishments in Canada in the future. [LAC - Policy - Training of Tradesmen, RCEME]

[CARO 6579 (1946)] combined the Forman Departmental, Storeholder, Storeholder (MV), and Storeman (Technical and Departmental) trades into the Storeman Group 1, Group 2, Group 3 trade.

When RCEME was created, the Foreman, Departmental trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

See the Storeman trade.

Foreman, Departmental Trade Test in 1944 [Trades 1944]

The trade had two levels: Group C and Group B. To qualify for Group C, the candidate had to:

Be qualified as a storeman.

> Be able to prepare issue and expense vouchers, to identify and properly check such stores, equipment and technical apparatus as handled in his group.
>
> Be acquainted with the distinguishing marks of ammunition and projectiles.
>
> Have a thorough knowledge of the several methods used for the preservation of stores and equipment.
>
> Have a complete knowledge of storehouse accounting including repairs of stores.

To qualify for Group B, the candidate, in addition to the requirements for Group C:

> Have a complete knowledge of all accounting documents and be fully qualified to instruct storehouse personnel in their duties.
>
> Have a good knowledge of the regulations governing the transportation of Ordnance Stores: of the preparation of shipping bills; of dealing with stores in transit; of methods of stocktaking and adjustment of deficiencies.
>
> Be acquainted with fire precautions and care and working of Fire Engines and Extinguishers.
>
> Be able to control subordinates and to act independently in the absence of the storeholder.

Grinder (Precision)

When RCEME was created, the Grinder (Precision) trade wore the "T" badge relevant to the tradesman's level of qualification (see the introduction to Annex A for a description and photo of the badges).

When RCEME was created, [CARO 4230] transferred all RCOC Grinders (Precision) to RCEME.

When RCEME was created, [CARO 4230] transferred to RCEME any RCASC Grinders (Precision) who were in units that were converted to RCEME.

[Trades 1944] lists this trade as applicable to RCEME and RCASC.

During the Second World War, Grinders (Precision) could be found in fourth line RCEME units.

The trade had two groups: C and B.

[CARO 6579 (1946)] reclassified the Grinder (Precision) trade as a Group 1, Group 2 trade.

[CAO 269-1 (1947)] lists the trade, but the entry is ambiguous.

The Grinder (Precision) trade was discontinued in 1947 [Skill at Arms].

[CAO 269-1 (1949)] does not list the Grinder (Precision) trade.

Grinder (Precision) Trade Test in 1944 [Trades 1944]

The trade had two levels: Group C and Group B. To qualify for Group C, the candidate had to:

> Know the names of components and be able to operate and maintain lathes, shapers and attachment grinder.
>
> Be able to properly grind cutting tools for lathe and shaper.
>
> Be able to finish work in lathe or shaper to a limit of.0005 inches using the attachment grinder.
>
> Be able to select grinding wheels suitable for the material to be ground, having regard for safe speeds and feeds; to dress grinding wheel face.
>
> Be able to do plane grinding; cylindrical grinding inside and outside; and taper grinding both male and female.
>
> Be able to make dimensional sketches and to read blue prints.
>
> Be proficient in the use of precision measuring tools in English and Metric measure.
>
> Have a good knowledge of materials used in the construction of machines and of the machinability and characteristics of materials in respect to grinding.
>
> Have a working knowledge of the heat treatment of metals; annealing, hardening, tempering.

To qualify for Group B, the candidate in addition to the requirements for Group C, had to:

Be able to operate and maintain one of the following:—

A Universal Grinder.

A special Crankshaft Grinder.

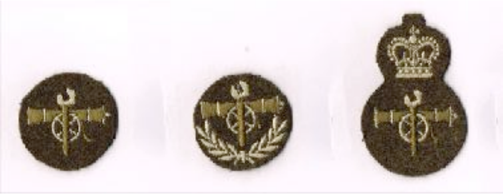
A special Cylinder Grinder.

Be able to produce finishes by lapping, burnishing, polishing.

Be able to finish work at a rate favourably comparable to a civilian commercial shop, producing the same work to the same limits of accuracy.

Have a practical knowledge of cutting compounds used in precision grinding.

Gun Mechanic



Gun Mechanic
Group 1, Group 2, Group 3
(Courtesy Gord Goddard)

The Gun Mechanic was a postwar successor to the Fitter trade.

In the late 1940s, the RCA, RCAC, and RCEME had different requirements for a Fitter. RCEME took the view that the Group 1 Fitter had to learn the use of hand tools used in the fabrication and modification of metal parts. At the Group 2 level, he learned to test, repair, and service guns, as well as expanding his knowledge of precision metal working. The other Corps wished to have the repair of the guns taught at the Group 1 level, in effect creating a "Fitter, Gun" as opposed to a Fitter. Even when the Fitter trade was assigned to RCEME, the problem still existed, in that there were two separate requirements for tradesmen. In December 1950, this led to the suggestion of creating a "Fitter, Gun" trade to service large calibre weapons for the RCA and RCAC. In due course, the Gun Mechanic trade was created.

[CAO 269-1 (1952)] does not list this trade.

The 126th Meeting of the Army Trades Committee on 26 June 1952 approved the creation of the Gun Mechanic Group 1, Group 2, Group 3 trade, and the Machinist Fitter Group 1, Group 2, Group 3 trade that together replaced the Fitter Group 1, Group 2, Group 3 trade and the Machinist Metal Group 1, Group 2, Group 3 trades. At the meeting, the proposed title of "Artillery Mechanic" was changed to "Gun Mechanic" because it was noted that "Artillery" included many aspects which were not a part of the trade. [LAC - ATC] The Machinist Fitter trade was a machinist trade, whereas the Gun Mechanic was a basic machinist with specific training on repair of large guns.

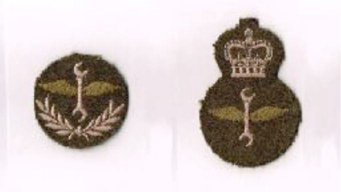
The LAC file [RG24-C-1-c, Volume/box number 31369, File number 3202-W8. Policy of Training and Qualifications - Weapons Technician. 1954-1958.] contains 1956 trade standards for the Gun Mechanic Group 1 and Group 2, which have been placed on the RCEME Historical Database and on the Internet Archive. The Group 1 trade standard is dated May 1954 and Group 2 is dated March 1956. A militia Group 1 specification is also in the LAC file (not copied), although the Gun Mechanic (Militia) is not included in the 1961 list of militia trades. The last trades standards for the Gun Mechanic trade in the file are dated October 1957 (Group 1 - amended in January 1958), and December 1957 (Group 3).

By 1958, it was apparent that both the Armourer, and Gun Mechanic trades were in decline, because of equipment being removed from service - during the 1950s, the anti-aircraft role was turned over to the RCAF, and the coast defence artillery was also disbanded, rendering both sets of equipment obsolete. It was suggested that the two trades be combined. [RCEME Archives]

In 1960, the Gun Mechanic trade became part of the Weapons Technician trade and all Gun Mechanics were converted to that trade. [Weapons Technician Group 1-3 Specification, April 1960]

See the Weapons Technician trade.

Helicopter Technician



Helicopter Technician
Group 2 and Group 3
(Courtesy Gord Goddard)

At the Army Council meeting on 27 March 1957, the CGS stated that there was a requirement for RCEME aircraft trades to repair army light aircraft and helicopters. Approximately 85 technicians would be required. At the time, it was anticipated that the following RCEME trades were required:

~~Instrument Technician (Air) Group 2 and Group 3~~ (see below)

~~Electrical Technician (Air) Group 2 and Group 3~~ (see below)

Aircraft Artificer Group 4

Aircraft Technician Group 2 and Group 3

~~Helicopter Artificer Group 4~~ (It was decided to have a single Aircraft Artificer trade at the Group 4 level over both the Aircraft and Helicopter Technicians).

Helicopter Technician Group 2 and Group 3

The 165th meeting of the Army Trades Committee meeting on 16 October 1959 introduced the Helicopter Technician Group 2, Group 3 trade. [LAC - ATC]

On 31 July 1959, DEME agreed that the small number of Instrument and Electrical Technicians needed until 1964 (15 and 19 respectively) did not support either separate trades or a combined trade. Individuals would be trained to fill the required vacancies and the establishments noted about the required qualifications. The requirement for those two trades was dropped. [RCEME Archives]

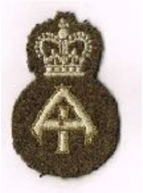
The Helicopter Technician Groups 2 and 3 trade specification was dated 1 April 1960, and updated on 1 January 1962 [CAMTS]. A copy of the 1962 specification has been placed on the RCEME Historical Database and on the Internet Archive.

This trade is included in RCEME Technical Bulletin Vol. 6, No.1, February 1961, which listed all RCEME trades and common trades applicable to RCEME and their authorized trade groups in 1960.

In 1963, the Airplane Technician and Helicopter Technician trades were combined into the Aircraft Technician Group 1, Group 2, Group 3 trade. [Skill at Arms]

On Unification, the Helicopter Technician trade was transferred to the Air Force and was no longer a RCEME trade. It was replaced by Airframe Technician or Aviation Technician or Aero Engine Technician.

Instructor / Assistant Instructor (RCEME)



Assistant Instructor
Group 3
(Courtesy Gord Goddard)

This is a postwar trade.

The Army Trades Committee files at the LAC have considerable documentation on the Instructor (later Assistant Instructor) trades in the Canadian Army as a whole. The overall impact on RCEME was minor compared to the impact on the combat arms. The original concept for an Instructor in any Corps was that they should be “highly qualified warrant officers or senior NCOs - an elite cadre - men who could teach almost any subject in their Corps and who would merit Group 3 or even Group 4 pay” [LAC Army Trades Sub-Committee - 87th Meeting Minutes]. In 1955, the term “Instructor” was changed to “Assistant Instructor” for other ranks. The term “Instructor” was reserved for officers [LAC].

The Assistant Instructor RCEME was responsible for instructing in general military training and Corps general subjects. The Group 1 trade was Driver Mechanical Transport Group 1.

There was apparently no badge for the Group 2 Assistant Instructor trade.

RCEME did not have Group 4 Assistant Instructors. The Artificer trades filled the Group 4 function.

The amendment to [CAO 269-1 (1949)] dated 6 February 1950 first listed the Instructor (RCEME) as a Group 1, Group 2, and Group 3 trade assigned to RCEME.

[CAO 269-1 (1950)] confirmed the Instructor (RCEME) trade as a Group 1, Group 2, and Group 3 trade assigned to RCEME.

[CAO 269-1 (1952)] reduced the Instructor (RCEME) trade to a Group 1, Group 2, and Group 3 trade specialty assigned to RCEME.

The 128th meeting of the Army Trades Committee on 9 October 1952 replaced the specialty of Instructor (RCEME) Group 1, Group 2, Group 3 with the specialty of Instructor (RCEME) Group 2, Group 3. The 1952 trade specification is on the RCEME Historical Database and on the Internet Archive. [LAC - ATC]

There is an LAC file on the Instructor (RCEME). [LAC Reference: Policy of Training and Qualifications - Instructors (RCEME) 1950-1955. RG24-C-1-c, Volume/box number 31363, File number 3202-J2/7.] The file contains no useful information.

In 1955, the Instructor (RCEME) was renamed Assistant Instructor (RCEME). This applied to all Corps. [LAC - ATC]

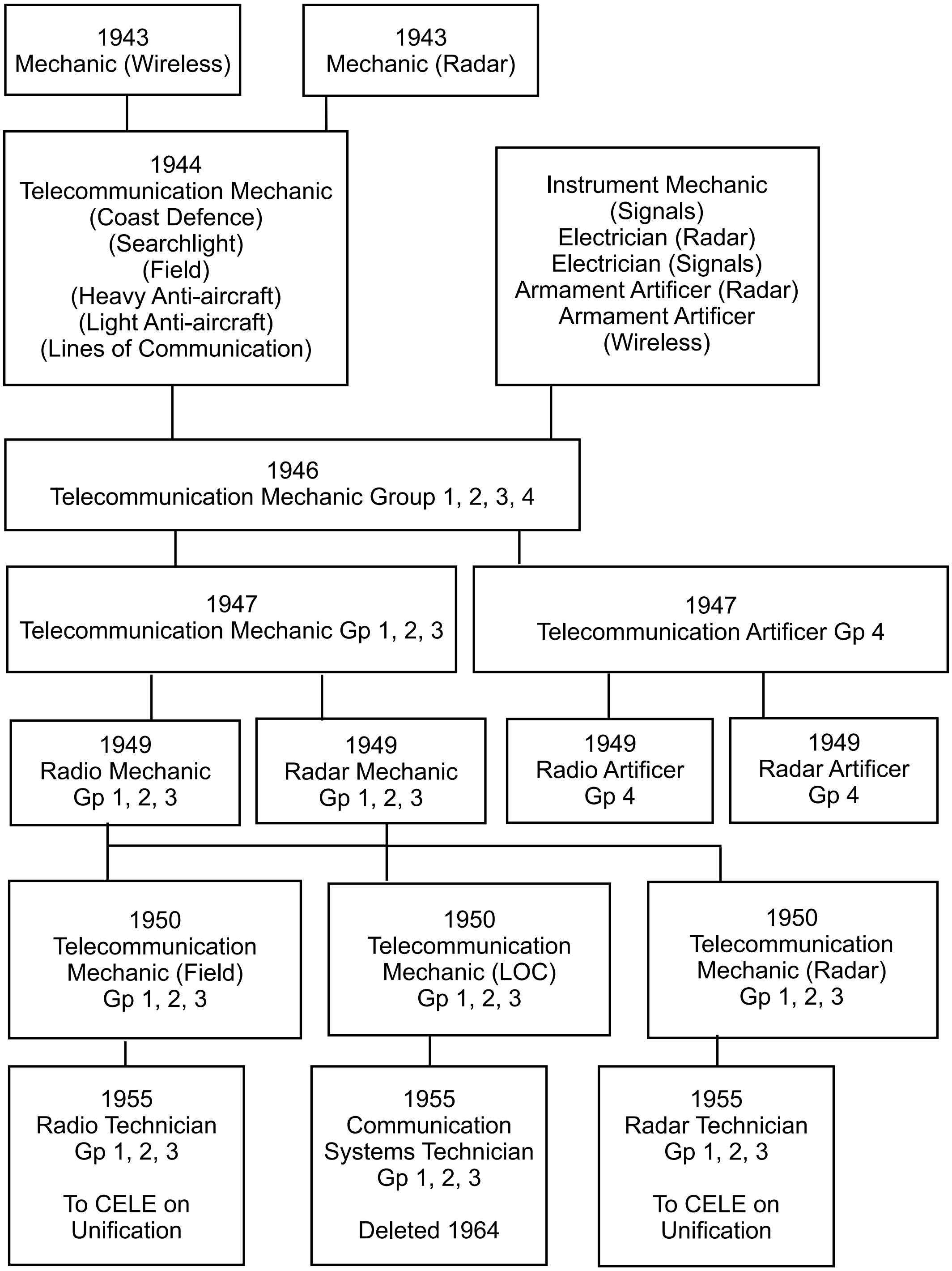
The 25 April 1960 trades specification for Group 2 and Group 3 Assistant Instructors from the [RCEME Archives] has been placed on the RCEME Historical Database and on the Internet Archive.

The Sub-committee of the Army Trades Committee, on 26 May 1960, deleted the Group 2 Assistant Instructor (RCEME) on the basis that the trade could not be justified, and directed that the Group 3 Assistant Instructor RCEME specification be rewritten. The progression to the Group 3 Assistant Instructor RCEME was to be from the Driver, Mechanical Transport, Group 2 trade.

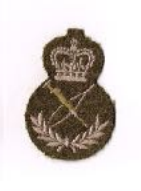
This trade is included in [RCEME Technical Bulletin Vol. 6, No.1, February 1961], which listed all RCEME trades and common trades applicable to RCEME and their authorized trade groups in 1960.

The Assistant Instructor (RCEME) trade ceased to exist on 30 September 1966 and all personnel qualified Assistant Instructor (RCEME), who were not qualified in another RCEME trade, were remustered to the Vehicle Technician trade effective 1 October 1966. [RCEME Technical Bulletin, Volume 12, Number 1]

Instrument Mechanic Flowchart



Instrument Artificer aka Master Instrument Technician



Instrument Artificer
Group 4
(Courtesy Gord Goddard)

On 1 May 1958, DEME recommended that the Instrument Artificer (Harbour Defence), Instrument Artificer (Anti-aircraft), Instrument Artificer (Anti-aircraft and Harbour Defence), and Instrument Artificer (Field) trades be combined and renamed Instrument Artificer. At that time, it was noted that six artificers needed some level of retraining before being qualified in the new trade. [RCEME Archives] *Note: the date of this document is inconsistent with the other official documentation on the subject and should probably be 1957.*

The minutes of the 83rd meeting of the Sub-Committee of the Army Trades Committee on 26 November 1957 approved the deletion of the Instrument Artificer (HD&AA) Group 4 trade. This left the Instrument Artificer (Field) as the sole remaining Instrument Artificer Group 4 trade and the qualifier "(Field)" was removed from the name. [LAC - Army Trades Committee 1960-1961. File. RG24-C-1-c, Volume/box number 35591. File number 1200-T3.]

A document in the [RCEME Archives] dated 2 January 1958 states that the Instrument Artificer Group 4 trade specification replaced the Instrument Artificer (Anti-aircraft) Group 4, Instrument Artificer (Field) Group 4, and Instrument Artificer (HD&AA) Group 4 trades.

The Instrument Artificer Group 4 trade specification was dated 1 April 1958 [CAMTS]. A copy of the specification has been placed on the RCEME Historical Database and on the Internet Archive.

The Instrument Artificer trade is included in RCEME Technical Bulletin Vol. 6, No.1, February 1961, which listed all RCEME trades and common trades applicable to RCEME and their authorized trade groups in 1960.

On 13 July 1962, the Army Trades Committee agreed to a DEME request dated 27 June 1962 to change the appointment of Artificer to Engineering Technician, change the trade name of Artificer to Master Technician, and reduce the rank prerequisite to "hold the substantive rank of corporal". Nine RCEME trades were involved. Accordingly, the Instrument Artificer was renamed Master Instrument Technician.

On Unification, the Master Instrument Technician trade was replaced by the Electro-Mechanical Technician.

Instrument Artificer (Anti-aircraft)

This was a renamed Armament Artificer Instruments (Anti-aircraft) trade. The background to that trade is included in this entry.

In the mid 1930s, there were three types of artificer: the Armament Artificer (Fitter), Armament Artificer (Instruments), and Artificer Artillery. With the influx of new weapons and vehicles, the workload became too great and too varied, and new trades were created to repair the new equipment. [Skill at Arms]

The Armament Artificer Instruments (AA) was an RCOC trade that was split from the Armament Artificer (Instruments) about 1943, and that repaired the instruments associated with anti-aircraft guns. It was a trade group A, based on the Instrument Mechanic and a course at the Military College of Science. The minimum rank was a staff sergeant. [Skill at Arms]

When RCEME was created, [CARO 4230] transferred all RCOC Armament Artificers Instruments (AA) to RCEME.

When RCEME was created, the Instrument Artificer (Anti-aircraft) trade wore the "T" badge relevant to the tradesman's level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] lists this trade as applicable to RCEME.

During the Second World War, Armament Artificers Instruments (AA) could be found in the Anti-aircraft workshops and in third and fourth line RCEME units.

No details of a trades test, or content of the MCS course has been found.

[CARO 6579 (1946)] reclassified the Armament Artificer Instruments (Anti-aircraft) trade as a Group 4 trade.

[CAO 269-1 (1947)] renamed the trade as Instrument Artificer (Anti-aircraft), effective 8 April 1947, and confirmed it as a Group 4 trade.

[CAO 269-1 (1949)] confirmed the Instrument Artificer (Anti-aircraft) trade as a Group 4 trade assigned to RCEME.

[CAO 269-1 (1950)] confirmed the Instrument Artificer (Anti-aircraft) trade as a Group 4 trade assigned to RCEME.

[CAO 269-1 (1952)] confirmed the Instrument Artificer (Anti-aircraft) trade as a Group 4 trade assigned to RCEME.

At a Chief of the General Staff conference in March 1954, it was agreed that the responsibility for coast defence would be handed over to the RCAF and RCN. All coast artillery batteries were disbanded, except for one harbour defence battery on each coast.

The 47th Meeting of the Army Trades Committee Sub Committee on 13 May 1954 noted that "AA" was being removed from the Instrument Artificer (AA) trade. A 1954 trade specification has been placed on the RCEME Historical Database and on the Internet Archive. [LAC - ATCSC]

On 15 February 1955, DEME announced that the Instrument Artificer (CD) trade was being deleted, and the Instrument Artificer (AA) trade would expand to include the the harbour defence function. The new trade would be named the Instrument Artificer (Anti-aircraft and Harbour Defence (AA & HD)). *Note: the references use AA&HD and HD&AA interchangeably, sometimes within the same document.*

See the Instrument Artificer (AA & HD) trade.

Instrument Artificer (Anti-aircraft and Harbour Defence (AA&HD))

This trade was an amalgamation of the Instrument Artificer (AA) and Instrument Artificer (CD) trades.

At a Chief of the General Staff conference in March 1954, it was agreed that the responsibility for coast defence would be handed over to the RCAF and RCN. All coast artillery batteries were disbanded, except for one harbour defence battery on each coast.

On 15 February 1955, DEME announced that the Instrument Artificer (CD) trade was being deleted, and the Instrument Artificer (AA) trade would expand to include the harbour defence function. The new trade would be named the Instrument Artificer (Anti-aircraft and Harbour Defence (AA & HD)) Group 4. *Note: the references use AA&HD and HD&AA interchangeably, sometimes within the same document.*

With the signing of the North American Air Defence Agreement in 1958, the RCAF, in conjunction with the US Air Force, took over the air defence of Canada. This effectively eliminated the anti-aircraft function of the Royal Canadian Artillery, and its requirement for RCEME support.

On 1 May 1958, DEME recommended that the Instrument Artificer (Harbour Defence), Instrument Artificer (Anti-aircraft), Instrument Artificer (Anti-aircraft and Harbour Defence), and Instrument Artificer (Field) trades be combined and renamed Instrument Artificer. At that time, it was noted that six artificers needed some level of retraining before being qualified in the new trade. [RCEME Archives] *Note: the date of this document is inconsistent with the other official documentation on the subject and should probably be 1957.*

The Army Trades Committee meeting of 19 December 1957 deleted the Instrument Artificer (Harbour Defence and Anti-aircraft) Group 4 trade from the Canadian Army. [RCEME Archives]

See the Instrument Artificer trade.

Instrument Artificer (Coast Defence)

This was a renamed Armament Artificer Instruments (Coast Defence) trade. The background to that trade is included in this entry.

In the mid 1930s, there were three types of artificer: the Armament Artificer (Fitter), Armament Artificer (Instruments), and Artificer Artillery. With the influx of new weapons and vehicles, the workload became too great and too varied, and new trades were created to repair the new equipment. [Skill at Arms]

The Armament Artificer Instruments (Coast Defence) was an RCOC trade that was split from the Armament Artificer (Instruments) about 1943, and that repaired the instruments associated with coast artillery. It was a trade group A, based on the Instrument Mechanic and a course at the Military College of Science. The minimum rank was a staff sergeant. [Skill at Arms]

When RCEME was created, [CARO 4230] transferred all RCOC Armament Artificers Instruments (Coast Defence) to RCEME.

When RCEME was created, the Instrument Artificer (Coast Defence) trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] lists the Armament Artificer Instruments (Coast Defence) trade as applicable to RCEME.

During the Second World War, Armament Artificers Instruments (Coast Defence) could be found in RCEME workshops that supported coast defence installations in Canada.

No details of a trades test, or content of the MCS course has been found.

[CARO 6579 (1946)] reclassified the Armament Artificer Instruments (Coast Defence) trade as a Group 4 trade.

[CAO 269-1 (1947)] renamed the trade as Instrument Artificer (Coast Defence), effective 8 April 1947, and confirmed it as a Group 4 trade.

[CAO 269-1 (1949)] confirmed the Instrument Artificer (Coast Defence) trade as a Group 4 trade assigned to RCEME.

[CAO 269-1 (1950)] confirmed the Instrument Artificer (Coast Defence) trade as a Group 4 trade assigned to RCEME.

[CAO 269-1 (1950)] confirmed the Instrument Artificer (Coast Defence) trade as a Group 4 trade assigned to RCEME.

The Chief of the General Staff conference in March 1954 agreed that the responsibility for coast defence would be handed over to the RCAF and RCN. All coast artillery batteries were disbanded, except for one harbour defence battery on each coast.

On 15 February 1955, DEME announced that the Instrument Artificer (CD) trade was being deleted, and the Instrument Artificer (AA) trade would expand to include the the harbour defence function. The new trade would be named the Instrument Artificer (Anti-aircraft and Harbour Defence (AA & HD)). *Note: the references use AA&HD and HD&AA interchangeably, sometimes within the same document.*

See the Instrument Artificer (AA & HD) trade.

Instrument Artificer (Field)

This was a renamed Armament Artificer Instruments (Field) trade. The background to that trade is included in this entry.

In the mid 1930s, there were three types of artificer: the Armament Artificer (Fitter), Armament Artificer (Instruments), and Artificer Artillery. With the influx of new weapons and vehicles, the workload became too great and too varied, and new trades were created to repair the new equipment. [Skill at Arms]

The Armament Artificer Instruments (Field) was an RCOC trade that was split from the Armament Artificer (Instruments) about 1943, and that repaired the instruments associated with field artillery. It was a trade group A, based on the Instrument Mechanic and a course at the Military College of Science. The minimum rank was a staff sergeant. [Skill at Arms]

When RCEME was created, [CARO 4230] transferred all RCOC Armament Artificers Instruments (Field) to RCEME.

When RCEME was created, the Instrument Artificer (Field) trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] lists the Armament Artificer Instruments (Field) trade as applicable to RCEME.

During the Second World War, Armament Artificers Instruments (Field) could be found in second, third, and fourth line RCEME units.

No details of a trades test, or content of the MCS course has been found.

[CARO 6579 (1946)] reclassified the Armament Artificer Instruments (Field) trade as a Group 4 trade.

[CAO 269-1 (1947)] renamed the trade as Instrument Artificer (Field), effective 8 April 1947, and confirmed it as a Group 4 trade assigned to RCEME.

[CAO 269-1 (1949)] confirmed the Instrument Artificer (Field) trade as a Group 4 trade assigned to RCEME.

[CAO 269-1 (1950)] confirmed the Instrument Artificer (Field) trade as a Group 4 trade assigned to RCEME.

[CAO 269-1 (1952)] confirmed the Instrument Artificer (Field) trade as a Group 4 trade assigned to RCEME.

The minutes of the 83rd meeting of the Sub-Committee of the Army Trades Committee on 26 November 1957 recommended the deletion of the Instrument Artificer (HD&AA) Group 4 trade. This left the Instrument Artificer (Field) as the sole remaining Instrument Artificer Group 4 trade and the qualifier “(Field)” was removed from the name. [LAC - Army Trades Committee 1960-1961. File. RG24-C-1-c, Volume/box number 35591. File number 1200-T3.]

The Army Trades Committee meeting of 19 December 1957 deleted the Instrument Artificer (AA & HD) trade from the Canadian Army, and confirmed the removal of the qualifier “Field”. [RCEME Archives]

On 1 May 1958, DEME recommended that the Instrument Artificer (Harbour Defence), Instrument Artificer (Anti-aircraft), Instrument Artificer (Anti-aircraft and Harbour Defence), and Instrument Artificer (Field) trades be combined and renamed Instrument Artificer. At that time, it was noted that six artificers needed some level of retraining before being qualified in the new trade. [RCEME Archives] *Note: the date of this document is inconsistent with the other official documentation on the subject and should probably be 1957.*

See the Instrument Artificer trade.

Instrument Mechanic aka Mechanic, Instrument (1944)

The Mechanic, Instrument trade was originally open to the RCOC and CWAC. [Trades 1944]

When RCEME was created, the Instrument Mechanic trade wore the "T" badge relevant to the tradesman's level of qualification (see the introduction to Annex A for a description and photo of the badges).

When RCEME was created, [CARO 4230] transferred all RCOC Mechanic, Instrument to RCEME.

[Trades 1944] lists the Instrument Mechanic trade as applicable to RCEME. The terminology reversal must have taken place earlier.

During the Second World War, Instrument Mechanics could be found in second, third, and fourth line RCEME units.

In the First Canadian Army overseas, the trade was fragmented into the sub-trades of Instrument Mechanic (Field), (Heavy Anti-aircraft), (Light Anti-aircraft), (Field Survey), and (Typewriter and Cipher) as a wartime expedient. See the separate trades.

The Instrument Mechanic trade had three groups: C, B, and A.

[CARO 6579 (1946)] changed the Instrument Mechanic into a Group 1, Group 2, Group 3, Group 4 trade. The CARO refers to the trade as an Instrument Mechanic and not as a Mechanic, Instrument. The CARO also notes the incorporation of the Watchmaker trade and the five overseas trades of Instrument Mechanic (Field), (HAA), (LAA), (Field Survey), and (Typewriter and Cipher) into the Instrument Mechanic trade.

[CAO 269-1 (1947)] divided the Instrument Mechanic trade into the Instrument Mechanic (Electrical) Group 1, Group 2, Group 3 trade, Instrument Mechanic (Optical) Group 1, Group 2, Group 3 trade, and reinstated the Watchmaker Group 1, Group 2, Group 3 trade, effective 8 April 1947.

See the Instrument Mechanic (Electrical) and Instrument Mechanic (Optical) trades.

Instrument Mechanic Trade Test in 1944 [Trades 1944]

The trade had three levels: Group C, Group B, and Group A. To qualify for Group C, the candidate had to:

> Be able to do simple light fitting work to given limits; to manufacture screw driver blades, drills, taps and other small tools; shape, harden and temper small springs and do simple soldering and brazing.
>
> Be able to use watchmaker's and small tool room lathes up to 9 inches for simple turning and simple screw cutting.
>
> Be able to make simple freehand dimensional sketches and to work from them and to do simple arithmetic involving vulgar and decimal fractions, areas and volumes.
>
> Have a fair knowledge of the principles of construction of jeweller's and tool room lathes, and the mechanical or electrical or optical instruments such as micrometers, voltmeters, ammeters, magnetic compasses, binoculars, etc., normally repaired by his Corps.

Have an elementary knowledge of either electricity or optics.

To qualify for Group B, the candidate, in addition to the requirements for Group C:

Either be able to adjust, repair and maintain compasses, telescopes, binoculars, clinometers, directors, dial sights and range finders; to fit bubbles and balsam lenses; to manufacture small parts for them from drawings or patterns supplied.

Or

Be able to adjust, repair and maintain anti-aircraft fire control equipment.

Be able to do light fitting, turning (including screw cutting) manufacture, harden and temper small graving tools, drills, taps, screw plates, drifts, chisels and punches; to polish and lacquer.

Either be able to apply the elementary principles of optics, reflection, refraction, lenses and prisms in the repair of astronomical and terrestrial telescopes, binoculars, range finders, dial sights and directors, etc.

Or

Be able to apply principles of magnetism and electricity to the repairs and maintenance of anti-aircraft fire control equipment and direction finding apparatus.

Be able to check and calibrate instruments from a standard.

Understand the principles of the engraving machine, the use of instrument testing scales and the various adapters used, also the auxiliary eye piece and No. 2 Collimator; know enough mathematics to work out the consistency and accuracy tests on a range finder.

To qualify for Group A, the candidate, in addition to the requirements for Group C and Group B had to:

Be able to repair, test, and adjust, directors, dial sights, range finders and theodolites.

Be able to use and maintain all workshop apparatus, including tripod testing scales, instrument testing scales No. 2, small, compass and dial sight collimators, balsaming oven desiccator, sub-standard compass and pressure gauge test set.

Be able to work from blue prints and manufacture such articles as No. 7 director worm spindles; to cut any threads required in service instruments, worm and multiple start.

Be able to do enough trigonometry to work out the range finder formula.

Have a general knowledge of instruments repaired in infantry troops, armoured brigade, heavy A.A., light A.A. and base workshops; elementary electricity as laid down in Notes on Electricity and Service Electrical Apparatus, the principles of exploders, ammeters and voltmeters. Principles and use of avometer and avominor for testing cables and circuits.

Instrument Mechanic (Field) (Overseas Only)

By implication, the Instrument Mechanic (Field) trade was transferred to RCEME when RCEME was created.

[Trades 1944] listed the Instrument Mechanic (Field) as applicable to RCEME (Overseas Only).

When RCEME was created, the Instrument Mechanic (Field) (Overseas Only) trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

During the Second World War, in the Canadian Army Overseas, the Instrument Mechanic (Field) trade was a subset of the Instrument Mechanic and could be found in second, third, and fourth line RCEME units.

The trade had two groups: B, and A.

[CARO 6579 (1946)] combined the Instrument Mechanic, Instrument Mechanic (Field), Instrument Mechanic (LAA), Instrument Mechanic (HAA), Instrument Mechanic (Fd Svy), Instrument Mechanic (Typewriter and Cipher), and Watchmaker trades and reclassified them as an Instrument Mechanic Group 1, Group 2, Group 3 trade.

See the Instrument Mechanic Trade.

Instrument Mechanic (Field) (Overseas Only) Trade Test in 1944 [Trades 1944]

The trade had two levels: Group B and Group A. To qualify for Group B, the candidate had to:

> Be a qualified Instrument Mechanic Group C.
>
> Have had at least three months experience in the repair and maintenance of, or have attended a recognized course of instruction on field instruments.
>
> Be a good bench fitter and turner, able to manufacture and fit such parts as may be necessary, be able to cut any threads in use in the service.
>
> Be able to adjust, repair and maintain all field instruments in current use such as compasses, telescopes, binoculars, clinometers, directors, dial sights and rangefinders using workshop equipment or improvising in the field.
>
> Be able to fit spirit bubbles, balsam lenses and prisms and understand the finish of instruments.

To qualify Group A the candidate, in addition to the requirements for Group B, had to:

> Know sufficient algebra and trigonometry to solve the range finding formula.
>
> Know optics as outlined in “Elementary Notes on Optics and their Application to Service Instruments.”
>
> Be a skilled bench fitter and turner able to work from blue prints and manufacture such articles as: director worm spindles, multiple start eyepieces, erecting lens cover (Telescope, sighting No. 30) and similar jobs.
>
> Be able to repair, adjust and carry out all tests on any type or mark of rangefinder.

Be able to use and maintain workshop test equipment including No. 2 small, compass and dial sight collimators, balsaming oven, desiccator, sub-standard compass, pressure gauge test apparatus and instrument testing scales.

Know elementary electricity as laid down in “Notes on Electricity and Service Electricity Apparatus” and be able to apply the knowledge to the repair and calibration of ammeters, voltmeters, engine hour clocks, exploders, etc.

Instrument Mechanic (Light Anti-aircraft) (Overseas Only)

By implication, the Instrument Mechanic (Light Anti-aircraft) trade was transferred to RCEME when RCEME was created.

[Trades 1944] listed the Instrument Mechanic (Light Anti-aircraft) as applicable to RCEME (Overseas Only).

When RCEME was created, the Instrument Mechanic (Light Anti-aircraft) (Overseas Only) trade wore the "T" badge relevant to the tradesman's level of qualification (see the introduction to Annex A for a description and photo of the badges).

During the Second World War, in the Canadian Army Overseas, the Instrument Mechanic (Light Anti-aircraft) trade was a subset of the Instrument Mechanic and could be found in second, third, and fourth line RCEME units.

The trade had two groups: B, and A.

[CARO 6579 (1946)] combined the Instrument Mechanic, Instrument Mechanic (Field), Instrument Mechanic (LAA), Instrument Mechanic (HAA), Instrument Mechanic (Fd Svy), Instrument Mechanic (Typewriter and Cipher), and Watchmaker trades and reclassified them as an Instrument Mechanic Group 1, Group 2, Group 3 trade.

See the Instrument Mechanic Trade.

Instrument Mechanic (Light Anti-aircraft) (Overseas Only) Trade Test in 1944 [Trades 1944]

The trade had two levels: Group B and Group A. To qualify for Group B, the candidate had to:

> Be a qualified Instrument Mechanic Group C.
>
> Have had at least three months experience in the repair and maintenance of, or have attended a recognized course of instruction on, light anti-aircraft instruments.
>
> Know elementary electricity as laid down in "Notes on Electricity and Service Electrical Apparatus".
>
> Have a general knowledge of L.A.A. Gunnery and the mathematics involved.
>
> Be able to repair cables, make reasonably good joints, and carry out repairs and maintenance on the L.A.A. instruments in current use such as 2.75 K.V.A. generator, Junction Box No. 7, S.P. power hook-up, sights correctional, and Predictor A.A. No. 3.
>
> Know the tests and adjustments of oil units and be able to carry out repairs and maintenance on the gun site.
>
> Be able to repair, test and adjust binoculars, clinometers and compasses.

To qualify Group A, the candidate, in addition to the requirements for Group B, had to:

Be a skilled bench fitter and turner and be able to work from blue prints and manufacture such parts as may be necessary. Be able to cut any threads required —worm or multiple start.

Be able to trace electrical faults using circuit diagrams and test instruments, and be able to maintain, repair and calibrate any such instruments.

Know all the optical and electrical instruments in use or repaired by his unit and be able to carry out normal repairs.

Be able to complete, in detail, any inspection or test sheets as may be necessary, on any instrument in use or repaired by his unit.

Instrument Mechanic (Heavy Anti-aircraft) (Overseas Only)

By implication, the Instrument Mechanic (Heavy Anti-aircraft) trade was transferred to RCEME when RCEME was created.

[Trades 1944] listed the Instrument Mechanic (Heavy Anti-aircraft) as applicable to RCEME (Overseas Only).

When RCEME was created, the Instrument Mechanic (Heavy Anti-aircraft) (Overseas Only) trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

During the Second World War, in the Canadian Army Overseas, the Instrument Mechanic (Heavy Anti-aircraft) trade was a subset of the Instrument Mechanic and could be found in second, third, and fourth line RCEME units.

The trade had two groups: B, and A.

[CARO 6579 (1946)] combined the Instrument Mechanic, Instrument Mechanic (Field), Instrument Mechanic (LAA), Instrument Mechanic (HAA), Instrument Mechanic (Fd Svy), Instrument Mechanic (Typewriter and Cipher), and Watchmaker trades and reclassified them as an Instrument Mechanic Group 1, Group 2, Group 3 trade.

See the Instrument Mechanic Trade.

Instrument Mechanic (Heavy Anti-aircraft) (Overseas Only) Trade Test in 1944 [Trades 1944]

The trade had two levels: Group B and Group A. To qualify for Group B, the candidate had to:

> Be a qualified Instrument Mechanic Group C.
>
> Have had at least three months experience in the repair and maintenance of, or have attended a recognized course of instruction on, anti-aircraft instruments.
>
> Be a good bench fitter and turner, able to manufacture and fit such parts as may be necessary and to cut any threads used in the service.
>
> Know elementary electricity as laid down in “Notes on Electricity and Service Electrical Apparatus” with particular regard to cable testing and secondary cells.
>
> Have a general knowledge of A.A. gunnery and the mathematics involved.
>
> Thoroughly understand the layout of a two and four gun H.A.A. battery using any type of predictor and radar control.
>
> Be able to carry out normal maintenance and repairs on H.A.A. instruments such as height computers, height and range finders, A.A. plotters, junction boxes, rotary converters, receivers, etc.
>
> Be able to repair, test and adjust binoculars, clinometers and compasses.

To qualify Group A the candidate, in addition to the requirements for Group B, had to:

> Be a skilled bench fitter and turner, able to work from blueprints and manufacture and fit such articles as, slider blocks, elevation and bearing stops, coil springs—such as used for ball carrier tensions wormshafts and spindles, etc.

Know the principles of multiplication linkages, variable speed gears and differential gears.

Know the principles of the Magslip system of transmitting data.

Know the optical and mechanical arrangements of height and range finders, identification telescope, predictor telescopes, binoculars, etc.

Be thoroughly familiar with the test apparatus used in the testing and adjusting of H.A.A. instruments such as height computers, height and range finders, A.A. plotters, junction boxes, rotary converters, receivers, etc.

Instrument Mechanic (Field Survey) (Overseas Only)

By implication, the Instrument Mechanic (Field Survey) trade was transferred to RCEME when RCEME was created.

[Trades 1944] listed the Instrument Mechanic (Field Survey) as applicable to RCEME (Overseas Only).

When RCEME was created, the Instrument Mechanic (Field Survey) (Overseas Only) trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

During the Second World War, in the Canadian Army Overseas, the Instrument Mechanic (Field Survey) trade was a subset of the Instrument Mechanic and could be found in second, third, and fourth line RCEME units.

The trade had two groups: B, and A.

[CARO 6579 (1946)] combined the Instrument Mechanic, Instrument Mechanic (Field), Instrument Mechanic (LAA), Instrument Mechanic (HAA), Instrument Mechanic (Fd Svy), Instrument Mechanic (Typewriter and Cipher), and Watchmaker trades and reclassified them as an Instrument Mechanic Group 1, Group 2, Group 3 trade.

See the Instrument Mechanic Trade.

Instrument Mechanic (Field Survey) (Overseas Only) Trade Test in 1944 [Trades 1944]

The trade had two levels: Group B and Group A. To qualify for Group B, the candidate had to:

> Be a qualified Instrument Mechanic Group C.
>
> Have had at least three months experience in the repair and maintenance of, or have attended a recognized course of instruction on, survey instruments.
>
> Be a good bench fitter and turner, able to manufacture and fit such parts as may be necessary. Be able to out any thread in use in the service.
>
> Have a general knowledge of optical principles and understand the use of optical components in survey instruments.
>
> Be able accurately to fit bubbles, mirrors, spiderweb diaphragms, slow motion screws and levelling screws on survey instruments.
>
> Be able to overhaul all survey instruments in current use such as trough and prismatic compasses, alidades, clinometers, pocket levels and sextants, stadia rods, drawing equipment and tripods.
>
> Be able to repair and standardize steel tapes and chains, including cutting and re-joining.
>
> Be able to carry out maintenance to precision levels, vernier and micrometer theodolites, stereoscopes and flash spotting instruments.
>
> Be able to improvise temporary stands or test equipment as may be necessary in' the field or workshop.

To qualify Group A, the candidate, in addition to the requirements for Group B, had to:

> Have a good knowledge of mathematics and be able to solve algebraic and trigonometrical problems.
>
> Be able to perform in a thoroughly skilled and speedy manner the fitting of any optical or mechanical part including the refitting of pivots.
>
> Be able to overhaul and adjust, both with workshop test equipment and in the field such instruments as precision levels, vernier and micrometer theodolites and flash spotting instruments.
>
> Know elementary electricity as laid down in “Notes on Electricity and Service. Electrical Apparatus” and be able to apply the knowledge to the repair and calibration of ammeters, voltmeters, galvanometers, etc.

Instrument Mechanic (Typewriter and Cipher) (Overseas Only)

By implication, the Instrument Mechanic (Typewriter and Cipher) trade was transferred to RCEME when RCEME was created.

[Trades 1944] listed the Instrument Mechanic (Typewriter and Cipher) as applicable to RCEME (Overseas Only).

When RCEME was created, the Instrument Mechanic (Typewriter and Cipher) (Overseas Only) trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

During the Second World War, in the Canadian Army Overseas, the Instrument Mechanic (Typewriter and Cipher) trade was a subset of the Instrument Mechanic and could be found in second, third, and fourth line RCEME units.

The trade had two groups: B, and A.

[CARO 6579 (1946)] combined the Instrument Mechanic, Instrument Mechanic (Field), Instrument Mechanic (LAA), Instrument Mechanic (HAA), Instrument Mechanic (Fd Svy), Instrument Mechanic (Typewriter and Cipher), and Watchmaker trades and reclassified them as an Instrument Mechanic Group 1, Group 2, Group 3 trade.

See the Instrument Mechanic Trade.

Instrument Mechanic (Typewriter and Cipher) (Overseas Only) Trade Test in 1944 [Trades 1944]

The trade had two levels: Group B and Group A. To qualify for Group B, the candidate had to:

> Be a qualified Instrument Mechanic Group C.
>
> Have had at least three months experience in the repair and maintenance of, or have attended a recognized course of instruction on, typewriters, cipher machines and duplicators, etc.
>
> Be a good bench fitter and turner, able to make and fit such typewriter parts as: banking stops, margin pointers, paper release, lever links, draw band ends, type bar -connecting links, etc.
>
> Have a good knowledge of rotary and flat duplicators, adding machines, etc., and English, American and Continental typewriters.
>
> Know all marks of Type X cipher machines in use in the Service and be able to carry out repairs, tests and adjustments, either in the field or in static workshops.
>
> Be able to sketch the basic electrical diagram and diagnose any electrical faults of Machine Type X.
>
> Understand the principles and have a sound working knowledge of the impulse generator.
>
> Understand the security methods of handling Type X machines, spare parts and correspondence.

To qualify Group A the candidate, in addition to the requirements for Group B, had to:

> Be an exceptionally skilled craftsman and capable of handling a complete typewriter repair shop.
>
> Know all the names of the various parts used in typewriter and Type X machines and understand how to indent and account for them.

Instrument Mechanic (Electrical) (1947)

This is a postwar continuation of the wartime Instrument Mechanic trades. The background is included here for clarity.

The Mechanic, Instrument trade was originally open to the RCOC and CWAC. [Trades 1944]

When RCEME was created, [CARO 4230] transferred all RCOC Mechanic, Instrument to RCEME.

When RCEME was created, the Instrument Mechanic trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

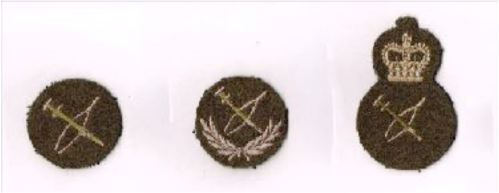
[Trades 1944] lists the Instrument Mechanic trade as applicable to RCEME. The terminology reversal must have taken place earlier.

During the Second World War, Instrument Mechanics could be found in second, third, and fourth line RCEME units.

In the First Canadian Army overseas, the trade was fragmented into the sub-trades of Instrument Mechanic (Field), (Heavy Anti-aircraft), (Light Anti-aircraft), (Field Survey), and (Typewriter and Cipher) as a wartime expedient. See the separate trades.

The Instrument Mechanic trade had three groups: C, B, and A.

[CARO 6579 (1946)] changed the Instrument Mechanic into a Group 1, Group 2, Group 3, Group 4 trade. The CARO refers to the trade as an Instrument Mechanic and not as a Mechanic, Instrument. The CARO also notes the incorporation of the Watchmaker trade and the five overseas trades of Instrument Mechanic (Field), (HAA), (LAA), (Field Survey), and (Typewriter and Cipher) into the Instrument Mechanic trade.



Instrument Mechanic (Electrical)
Group 1, Group 2, Group 3

(Courtesy Gord Goddard)

[CAO 269-1 (1947)] divided the Instrument Mechanic trade into the Instrument Mechanic (Electrical) Group 1, Group 2, Group 3 trade, Instrument Mechanic (Optical) Group 1, Group 2, Group 3 trade, and reinstated the Watchmaker Group 1, Group 2, Group 3 trade, effective 8 April 1947.

[CAO 269-1 (1949)] confirmed the Instrument Mechanic (Electrical) trade as a Group 1, Group 2, and Group 3 trade assigned to RCEME.

[CAO 269-1 (1950)] listed the Instrument Mechanic (Electrical) trade as a Group 1, Group 2, and Group 3 trade assigned to RCEME.

[CAO 269-1 (1952)] listed the Instrument Mechanic (Electrical) trade as a Group 1, Group 2, and Group 3 trade assigned to RCEME.

At a Chief of the General Staff conference in March 1954, it was agreed that the responsibility for coast defence would be handed over to the RCAF and RCN. All coast artillery batteries were disbanded, except for one harbour defence battery on each coast.

The 47th Meeting of the Army Trades Committee Sub Committee on 13 May 1954 noted that "Optical" was being removed from the trade name because the Instrument Mechanic (Electrical) trade was being deleted. A 1954 trade specification has been placed on the RCEME Historical Database and on the Internet Archive. [LAC - ATCSC]

On 15 February 1955, with the introduction of the 90-mm AA gun, DEME announced that the Instrument Mechanic (Electrical) Group 1, Group 2, Group 3 trade was deleted. A new trade, Instrument Mechanic (AA and HD) Group 3 would be introduced. Qualification for the trade would be by conversion from the Instrument Mechanic (E and O) Group 2. [RCEME Archives]

Instrument Mechanic (Optical) (1947) aka Instrument Mechanic

This is a postwar continuation of the wartime Instrument Mechanic trades. The background is included here for clarity.

The Mechanic, Instrument trade was originally open to the RCOC and CWAC. [Trades 1944]

When RCEME was created, [CARO 4230] transferred all RCOC Mechanic, Instrument to RCEME.

When RCEME was created, the Instrument Mechanic trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] lists the Instrument Mechanic trade as applicable to RCEME. The terminology reversal must have taken place earlier.

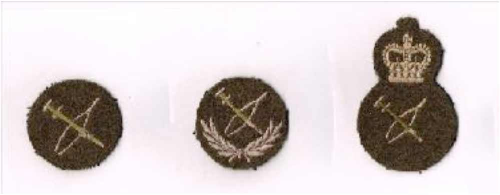
During the Second World War, Instrument Mechanics could be found in second, third, and fourth line RCEME units.

In the First Canadian Army overseas, the trade was fragmented into the sub-trades of Instrument Mechanic (Field), (Heavy Anti-aircraft), (Light Anti-aircraft), (Field Survey), and (Typewriter and Cipher) as a wartime expedient. See the separate trades.

The Instrument Mechanic trade had three groups: C, B, and A.

[CARO 6579 (1946)] changed the Instrument Mechanic into a Group 1, Group 2, Group 3, Group 4 trade. The CARO refers to the trade as an Instrument Mechanic and not as a Mechanic, Instrument. The CARO also notes the incorporation of the Watchmaker trade and the five overseas trades of Instrument Mechanic (Field), (HAA), (LAA), (Field Survey), and (Typewriter and Cipher) into the Instrument Mechanic trade.

[CAO 269-1 (1947)] divided the Instrument Mechanic trade into the Instrument Mechanic (Electrical) Group 1, Group 2, Group 3 trade, Instrument Mechanic (Optical) Group 1, Group 2, Group 3 trade, and reinstated the Watchmaker Group 1, Group 2, Group 3 trade, effective 8 April 1947.



Instrument Mechanic (Optical)
Group 1, Group 2, Group 3

(Courtesy Gord Goddard)

[CAO 269-1 (1949)] confirmed the Instrument Mechanic (Optical) trade as a Group 1, Group 2, and Group 3 trade assigned to RCEME.

[CAO 269-1 (1950)] listed the Instrument Mechanic (Optical) trade as a Group 1, Group 2, and Group 3 trade assigned to RCEME.

[CAO 269-1 (1952)] listed the Instrument Mechanic (Optical) trade as a Group 1, Group 2, and Group 3 trade assigned to RCEME.

A trade specification for the Instrument Mechanic (Optical) Group 2 has been found and placed on the RCEME Historical Database and on the Internet Archive.

The 47th Meeting of the Army Trades Committee Sub Committee on 13 May 1954 noted that “Optical” was being removed from the trade name because the Instrument Mechanic (Electrical) was being deleted. A 1954 trade specification has been placed on the RCEME Historical Database and on the Internet Archive. [LAC - ATCSC]

The Sub-committee of the Army Trades Committee on 27 November 1957 created the Instrument Technician Group 1, Group 2, Group 3 trade from the Instrument Mechanic Optical Group 1, Group 2, Group 3 trade. The trades specification was rewritten. [RCEME Archives]

On 1 May 1958, DEME recommended that the Instrument Mechanic (Optical), Instrument Mechanic (Electrical), and Instrument Mechanic (Anti-aircraft and Harbour Defence) trades be combined and renamed to Instrument Technician. [RCEME Archives]

See the Instrument Technician trade.

Instrument Mechanic (Anti-aircraft and Harbour Defence (AA&HD))

At a Chief of the General Staff conference in March 1954, it was agreed that the responsibility for coast defence would be handed over to the RCAF and RCN. All coast artillery batteries were disbanded, except for one harbour defence battery on each coast.

On 15 February 1955, with the introduction of the 90-mm AA gun, DEME announced that a new trade, Instrument Mechanic (AA and HD) Group 3 would be introduced. Qualification for the trade would be by conversion from the Instrument Mechanic (Electrical and Optical) Group 2 trades. [RCEME Archives]

A trade specification for the Instrument Mechanic (HD & AA) Group 3 has been found and placed on the RCEME Historical Database and on the Internet Archive.

With the signing of the North American Air Defence Agreement in 1958, the RCAF took over the air defence of Canada in conjunction with the US Air Force, effectively eliminating the anti-aircraft side of the Royal Canadian Artillery, and the requirement for RCEME support.

The Army Trades Committee meeting of 19 December 1957 deleted the Instrument Mechanic (Harbour Defence and Anti-aircraft) Group 1, Group 2, Group 3 trade from the Canadian Army. The equipment the trade supported was obsolete and being taken out of service. [RCEME Archives]

On 1 May 1958, DEME recommended that the Instrument Mechanic (Optical), Instrument Mechanic (Electrical), and Instrument Mechanic (Anti-aircraft and Harbour Defence) trades be combined and renamed Instrument Technician. [RCEME Archives] *Note that the date would appear to be a typo. The Instrument Mechanic (AA&HD) was deleted in 1957.*

See the Instrument Technician trade.

Instrument Technician

The Instrument Technician trade is a continuation of the Instrument Mechanic trades.

The Sub-committee of the Army Trades Committee on 27 November 1957 created the Instrument Technician Group 1, Group 2, Group 3 trade from the Instrument Mechanic Optical Group 1, Group 2, Group 3 trade. The trades specification was rewritten. [RCEME Archives]

Another document in the [RCEME Archives] states that the Instrument Technician Group 1, Group 2, Group 3 trade specification was created from the Instrument Mechanic (Optical) and Instrument Mechanic (HD&AA) trades.

On 1 May 1958, DEME recommended that the Instrument Mechanic (Optical), Instrument Mechanic (Electrical), and Instrument Mechanic (Anti-aircraft and Harbour Defence) trades be combined and renamed to Instrument Technician. [RCEME Archives] *Note that the date would appear to be a typo. The Instrument Mechanic (AA&HD) was deleted in 1957.*

There is an LAC file on the Instrument Technician trade. [LAC Reference: Policy of Training and Qualifications - Instrument Technician 1950-1959. RG24-C-1-c, Volume/box number 31362, File number 3202-J11.]

The Instrument Technician Group 1, Group 2, Group 3 specification was dated 1 April 1958 and updated on 1 December 1962 [CAMTS]. A copy has been placed on the RCEME Historical Database and on the Internet Archive.

The Instrument Technician trade is included in RCEME Technical Bulletin Vol. 6, No.1, February 1961, which listed all RCEME trades and common trades applicable to RCEME and their authorized trade groups in 1960.

All Instrument Technicians and Electrical Technicians were remustered to Electro-Mechanical Technicians on 1 October 1966. [RCEME Technical Bulletin]

See the Electro-Mechanical Technician trade.

Lineman Mechanic aka Line Mechanic

[Trades 1944] listed the Lineman Mechanic as an RC Sigs Group A, Group B, Group C trade.

[CARO 6579 (1946)] reclassified the Lineman Mechanic trade as a Group 1, Group 2, Group 3 trade.

[CAO 269-1 (1947)] confirmed the Lineman Mechanic Trade as a Group 1, Group 2, Group 3 trade.

[CAO 269-1 (1949)] renamed the Lineman Mechanic trade to Line Mechanic as a Group 1, Group 2, Group 3 trade assigned to RC Sigs and RCEME.

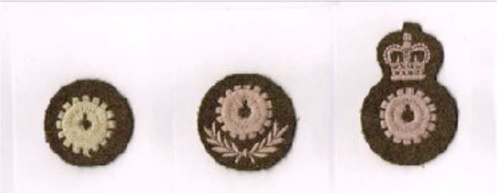
[CAO 269-1 (1950)] listed the Telecommunication Mechanic (Field), Telecommunication Mechanic (Line of Communication - LOC), and Telecommunication Mechanic (Radar) Group 1, Group 2, Group 3 trades assigned to RCEME, replacing the Line Mechanic, Radio Mechanic, and Radar Mechanic trades in RCEME.

[CAO 269-1 (1950)] listed the Line Mechanic Trade as a Group 1, Group 2, Group 3 trade assigned to RC Sigs and removed the trade from RCEME.

Machinist (with no further designation)

When RCEME was created, [CARO 4431] transferred all RCOC Machinists to RCEME. No information has been found on this trade.

Machinist Fitter



Machinist Fitter
Group 1, Group 2, Group 3
(Courtesy Gord Goddard)

This is a postwar trade.

The 126th Meeting of the Army Trades Committee on 26 June 1952 approved the creation of the Machinist Fitter Group 1, Group 2, Group 3 trade to replace the Machinist Metal Group 1, Group 2, Group 3 trade. The Machinist Fitter trade also took on some of the functions of the Fitter Group 1, Group 2, Group 3 trade that was being cancelled. [LAC - ATC]

There is an LAC file on this trade. [LAC Reference: Policy of Training and Qualifications - Machinist Fitter 1951-1962. RG24-C-1-c, Volume/box number 31363, File number 3202-M2/1.] This file notes that the Machinist Metal was renamed Machinist Fitter about 1955. A trade specification has been placed on the RCEME Historical Database and on the Internet Archive.

The Machinist Fitter trade was a machinist trade, whereas the Gun Mechanic trade was a basic machinist with specific training on repair of large guns.

This trade is included in RCEME Technical Bulletin Vol. 6, No.1, February 1961, which listed all RCEME trades and common trades applicable to RCEME and their authorized trade groups in 1960.

The Machinist Fitter trade became the Machinist trade on Unification. [RCEME Technical Bulletin, Vol. 11, No. 4, October 1966]

Machinist Fitter (Militia)

A 1955 trades specification for a Machinist Fitter (Militia) Group 1 has been found and placed on the RCEME Historical Database and on the Internet Archive.

No other details of the trade are known. It was not included on the 1961 list of militia trades.

Machinist (Metal)

When RCEME was created [CARO 4230] transferred all RCOC Machinists (Metal) to RCEME.

When RCEME was created, the Machinist (Metal) trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] lists this trade as applicable to RCEME, RCE, and CWAC.

During the Second World War, Machinists (Metal) could be found in third and fourth line RCEME units.

The trade had two groups: C and B.

[CARO 6579 (1946)] reclassified the Machinist (Metal) trade as a Group 1, Group 2, Group 3 trade.

[CAO 269-1 (1947)] confirmed the Machinist (Metal) trade as a Group 3 trade, effective 8 April 1947. This may be an error.

[CAO 269-1 (1949)] confirmed the Machinist (Metal) trade as a Group 1, Group 2, Group 3 trade assigned to RCEME.

[CAO 269-1 (1950)] listed the Machinist (Metal) trade as a Group 1, Group 2, Group 3 trade assigned to RCEME.

[CAO 269-1 (1952)] listed the Machinist (Metal) trade as a Group 1, Group 2, Group 3 trade assigned to RCEME.

There is an LAC file on the Machinist (Metal). [LAC Reference: Policy of Training and Qualifications - Machinist (Metal) 1946-1965. RG24-E-1-c, Volume/box number 32842, File number 450-M1. RCAF file.]

The 126th Meeting of the Army Trades Committee on 26 June 1952 approved the creation of the Machinist Fitter Group 1, Group 2, Group 3 trade to replace the Machinist Metal Group 1, Group 2, Group 3 trade. The Machinist Fitter trade also took on some of the functions of the Fitter Group 1, Group 2, Group 3 trade that was being cancelled. [LAC - ATC] This is also noted in [LAC Reference: Policy of Training and Qualifications - Machinist Fitter 1951-1962. RG24-C-1-c, Volume/box number 31363, File number 3202-M2/1.]

See the Machinist Fitter trade

Machinist (Metal) Trade Test in 1944 [Trades 1944]

The trade had two levels: Group C and Group B. To qualify for Group C, the candidate had to:

Be able to work to a good degree of accuracy, shaping, planing, slotting and plain milling machines.

Be able to sharpen tools for shaping, planing and slotting machines.

Be able to make simple sketches.

Be able to set up the work and do the following:

Planing of flat surfaces.

Slotting of straight and curved surfaces.

Shaping of various forms of keyways.

Milling of straight flutes, grooves, keyways, etc.

To qualify for Group B, the candidate, in addition to the requirements for Group C, had to:

Be able to operate any machine tools, including universal milling machines, but excluding lathes and boring machines, and have a good knowledge of feeds and speeds.

Be able to read drawings dimensioned in either the fractional or the decimal system.

Have a good knowledge of and be able to use micrometer and vernier gauges and dividing heads and index plates.

Be able to set up the work and perform to a good degree of accuracy the following:

Side and undercutting and angle facing, etc., on a planing machine.

Machining to a line of any given contour on a slotting machine.

Side and undercutting on a shaping machine.

Spiral grooving and fluting, gear cutting and profiling on a milling machine.

Be able to grind and sharpen reamers and simple milling cutters.

Have a good knowledge of lubricants required for various metals.

Machinist (Wood)

When RCEME was created [CARO 4230] transferred all RCOC Machinists (Wood) to RCEME.

When RCEME was created, the Machinist (Wood) trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] lists this trade as applicable to RCEME.

During the Second World War, Machinists (Wood) could be found in fourth line RCEME units.

The trade had two groups: C and B.

A DEME memo on 30 January 1946 advised that the Machinist (Wood) trade was no longer in use in RCEME and could be eliminated.

[CARO 6579 (1946)] reclassified the Machinist (Wood) trade as a Group 1, Group 2 trade.

[CAO 269-1 (1947)] confirmed the Machinist (Wood) trade as a Group 2 trade effective 8 April 1949.

[CAO 269-1 (1949)] confirmed the Machinist (Wood) trade as a Group 2 trade assigned to RCEME.

[CAO 269-1 (1950)] listed the Machinist (Wood) trade as a Group 2 trade assigned to RCEME. However, the trade was designated as a wartime only trade.

[CAO 269-1 (1952)] listed the Machinist (Wood) trade as a Group 2 trade assigned to RCEME. However, the trade was designated as a wartime only trade.

The trade was reduced to nil strength in 1950 [Skill at Arms].

The Army Trades Committee meeting of 19 December 1957 deleted the Machinist (Wood) trade from the Canadian Army. [RCEME Archives] It was replaced by the Carpenter trade (RCE).

Machinist (Wood) Trade Test in 1944 [Trades 1944]

The trade had two levels: Group C and Group B. To qualify for Group C, the candidate had to:

Be able properly to use the following tools: hammer, saw, chisel, gauge, file, rasp, plane, spoke shave, draw knife, inside and outside callipers, laying out tools including square, protractor, dividers, compasses, marking gauge, and depth gauge, sander, circular saw, jig saw, band saw, wood lathe and bench grinder.

> Be able to keep in order and properly to adjust the above tools and in addition to understand the lubrication and maintenance of line shafting and simple wood working tools and belt lacing.
>
> Be able to execute within the given limits a job, including the basic operations of sawing, laying out, gluing, setting up, planing, turning and finishing; to sharpen all wood cutting tools, both hand and machine. To know the various types of joints

made with wood and the value of varnish to protect the wood and how to give wood various finishes.

Be able to do simple arithmetic using fractions and decimals; to make a free hand dimensioned sketch of a simple article such as a box; to read simple blue prints including a knowledge of hatching denoting different materials and metals; to distinguish between different woods; to know drawing conventions and notations used for operations.

To qualify for Group B, the candidate, in addition to the requirements for Group C, had to:

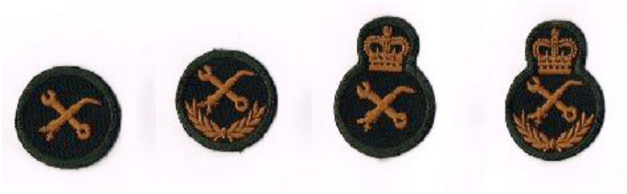
Be able properly to use any size or type of wood working machine such as planer, shaper, slotter, joiner or mortising and tenoning machines.

Be able to keep in order and properly to adjust the above tools.

Be able to execute within the given limits any jobs of sawing, turning, planing, shaping, slotting and joining given to him such as that shown in Plate No. 4, which incorporates the basic operations of drilling, dowelling, slotting, shaping and mortising; to forge or grind any tools required and heat treat them for wood working purposes; to weld band saws; to do any job from blue print or sample. To know the feeds and speeds for working various woods on different machines. To have a knowledge of timber storage, seasoning and preservation.

Be able to read ordinary blue prints; to make a properly dimensioned sketch of any job given to him. To know sufficient geometry to lay out work in the shop; to know the strengths and weights of various woods; sufficient about pattern making to make simple patterns; enough shop trigonometry to solve right angled triangles, to find the diameter of a circle without having the centre, to lay out any angle, to lay out regular polygons.

Materials Technician



Materials Technician
Level 1, Level 2, Level 3, Level 4
(Courtesy Gord Goddard)

The Formation of the Materials Technician MOC 441 Trade
by Gord Goddard

This article reflects the milestones in the formation of the Materials Technician trade. Every Materials Technician should be knowledgeable of the history of his trade and how it came to be the fourth RCEME trade. Following Unification of the Canadian Armed Forces, it quickly became apparent that the lack of a materials trade in the Canadian Army was creating problems. Nevertheless, progress toward the formation of such a trade was slow. The following is a brief chronology of activities related to the Materials Technician proposal:

> 3 November 1976. The Director General Land Engineering and Maintenance (DGLEM) proposed the establishment of a Materials Technician trade. [5000-44-3 (DLFR-2) over 3207-3 3 November 1976]
>
> 10 December 1976. The proposal was staffed to all Commands. [5810-1 (DMOS) 10 December 1976]
>
> 28 September 1977. The proposal was staffed to NDHO agencies for comment. [5810-1 (DMOS) 28 September 1978]
>
> 7 April 1978. A meeting was convened under DGLEM auspices to discuss rank structure offsets. [Minutes of Meeting to Discuss Offsets 18 April 1978] All involved agencies from NDHQ and the Commands attended. Air Command was not in agreement with the Materials Technician proposal.
>
> May 1978. The LORE Trades Rationalization Study was promulgated, and proposed the introduction of a Materials Technician trade. [LORE Trades Rationalization Study May 1978]
>
> 5 December 1979. Air Command agrees with DGLEM proposal. [051535Z December 1979 COS SUP 272]
>
> 5 July 1979 - The Air Technician - Part II (Workshop Trades) Operational Analysis Study commenced. Its recommendations included splitting the trades along environmental lines. This made it possible to establish a Materials Technician trade. [5000-6-500 (DMOS) 14 December 1981]
>
> October 1981. The LORE Operational Analysis commenced.

The Rationalization of the Trades Supporting the Ordnance Engineering System was the initial Ordnance Engineering System (OES) document identifying the Materials Technician Trade requirement. [Rationalization of the Trades Supporting the Ordnance Engineering System 3207-3 (DLFR 2) September 1976]

The 1981 Occupational Analysis of the [Air] Workshop Trades: Metals Technician MOC 561, Machinist MOC 562, and Refinisher Technician MOC 563 revealed that their structure was not meeting the needs of the Canadian Forces. It was recommended that the Metals Technician and Refinisher Technician trades be split along environmental lines for the following reasons:

> a. There were distinct environmental employment areas within each trade with a resultant shift in emphasis of duties. An example was the Metals Technician in support of aircraft operations, who was primarily a sheet metal worker and performed a secondary function of welding. The OES, however, required the reverse. One technician was therefore concerned with close tolerances and high precision products suitable for the aerospace industry. The other worked on thicker heavier metals, performed body work often to low tolerances, and was more involved in soldierly environmental tasks;
>
> b. Skills and knowledge that were not used while employed in a specific environment deteriorated through disuse, i.e. work in support of the OES required only about 25 percent of the knowledge and skills of the REF TECH Trade;
>
> c. Morale and retention of personnel were major concerns due to a lack of job satisfaction and perceived promotion prospects when posted between environments. [Canadian Forces Occupational Analysis Report, Air Technical Trades, Part 2 Workshop Trades June 1982]

The analysis further recommended that a Materials Technician Trade be created to provide the support required for the OES. Offsets from the Metals Technician and Refinisher Technician positions would provide the basic establishment structure for the new trade. This recommendation was accepted at the 21 February 1983 meeting of the Air Technical Trades Steering Group (ATTSG). [Canadian Forces Occupational Analysis Report Land Ordnance Engineering Trades (MOC 400 Series), July 1983] [1150-10/A162 over 5810-1 Minutes of the Seventh Air Technical Trades Steering Group of 5 December 1983]

A Materials Technician Working Group (MTWG) was established in December 1983. It had a cross section of representation from both NDHQ and Air Command staffs. This group had conducted and would continue to conduct the detailed staffing necessary to implement the new trade by 1 January 1985. [5810-441 (DCMEM 3) DGLEM Proposal to Create a New Trade Materials Technician MOC 441 of 24 January 1984]

Analysis of the OES machining requirement was related to the split of the Canadian Forces School of Aerospace and Ordnance Engineering, and the transfer of command and control of the 500 series trades training to Air Command. On 27 August 1984, when it was known that the decision would be to split CFSAOE, it was agreed by Air Command, DGAEM, and DGLEM that the Machinist should be included in the proposal.

ADM(Per) minutes approved in principle the development of a Trade Implementation Plan to form the Materials Technician Trade. [5810-441 (CPCSA) 4 July 1984]

[5810-441 (CPCSA) 7 September 1984]. The TIP recommended the following milestones:

December 1983	Trades Standard Board.
January 1984	DGLEM proposal.
March 1984	Trades Specification Review Board.
April 1984	Assessment of conversion training.
May 1984	Trade Modelling Draft Trade Implementation Plan.
September 1984	Trade Briefings and Treasury Board Approval.
October 1984	Combined Merit Board and Trade Remuster Board.
November 1984	Final Trade Modelling; Trade Implementation Plan Published; CFSO Issued.
December 1984	Establishment data amended.
1 January 1985	Implementation date for the new trade.
January 1985	Conversion & TQ3 training started.
July 1985	TQ5 & TSQ training started.
July 1985 to 31 December 1989	Transition Period.
01 January 1990	Materials Technician trade fully established.

The Materials Technician trade was officially formed on 1 January 1985, with rebadging ceremonies at every major base in Canada and CFE.

Further details on the Materials Technician Trade are in Chapter 4.

Mechanic, Motor (aka Motor Mechanic)

When RCEME was created, [CARO 4230] transferred all RCOC Mechanics, Motor to RCEME.

When RCEME was created, [CARO 4230] transferred to RCEME any RCASC Mechanics, Motor who were in units that were converted to RCEME.

When RCEME was created, the Motor Mechanic trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] lists the Motor Mechanic trade as applicable to RCEME, CAC (Recce), CAC, RCA, RCE, RCASC, CFC, CIC, and CDC.

During the Second World War, Motor Mechanics could be found in all lines of RCEME units.

The Motor Mechanic trade had two groups: C and B.

[Trades 1944 AL 1] replaced the Motor Mechanic trade with the Vehicle Mechanic (AFV) or (MV) trade in January 1945.

See the Vehicle Mechanic (AFV) or (MV) trade.

Motor Mechanic Trade Test in 1944 [Trades 1944]

The trade had two levels: Group C and Group B. To qualify for Group C, the candidate had to:

> Know the names of and be able to use and keep in order, the hand tools issued to Fitters, M.V.
>
> Be able to drive all types of wheeled and/or tracked field vehicles issued to his unit.
>
> Be component to service the motor vehicles of his arm of the service.
>
> Be able under supervision to align front wheels, reline and adjust brakes, grind valves, adjust any vehicle component on the vehicle excepting voltage regulators and steering gears.
>
> Be competent to remove and replace assemblies, make running repairs, and do simple soldering; and be able to do simple reaming out, filing, tapping and threading and drilling.
>
> Understand the general principles and construction of the fuel system, oil system, electrical system and of the mechanical components of the vehicle supplied to his unit or on which he has to work.
>
> Be able to trace electrical circuits and to locate simple electrical faults and rectify same. Be able to maintain batteries.
>
> Be able to use the correct nomenclature describing parts and keep a legible record of the work carried out on vehicles and to know the use of documents in connection with the vehicle.

To qualify for Group B, the candidate, in addition to the requirements for Group C, had to:

> Know the names of, be able to use and keep in order, automotive shop tools, such as, valve refacer, valve reseater, vacuum gauges, voltmeters, hydrometers, portable test equipment, wheel aligning gauges and tools of a like nature.
>
> Be able to adjust steering gears, to trouble shoot and to rectify faults where no major work is necessary.
>
> Be able to rebush front ends and to use straight and expansion reamers.
>
> Be able to test vehicles of his arm of the service and report the condition of same.
>
> Be able to keep service records and write reports.

Mechanic, Motorcycle

When RCEME was created, [CARO 4230] transferred all RCOC Mechanics, Motorcycle to RCEME.

When RCEME was created, the Motorcycle Mechanic trade wore the "T" badge relevant to the tradesman's level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] lists the Mechanic, Motorcycle trade as applicable to RCEME and RCASC.

Mechanics, Motorcycle could be found in second, third, and fourth line RCEME units during the Second World War.

The Mechanic, Motorcycle trade had two groups: C and B.

[Trades 1944 AL 1] discontinued the Mechanic, Motorcycle trade in January 1945.

Mechanic, Motorcycle Trade Test in 1944 [Trades 1944]

The trade had two levels: Group C and Group B. To qualify for Group C, the candidate had to:

> Name, use, and keep in order, the hand tools issued to Fitters, M.V.
>
> Be proficient in riding motorcycles.
>
> Perform the regular maintenance tasks.
>
> Know the principles of internal combustion spark ignition engines.
>
> > Carry out the following tasks in a workmanlike manner:—
> >
> > Adjustment of ignition, breaker points and timing ignition. (Magneto or battery ignition systems.)
> >
> > Cleaning and adjustment of carburettor.
> >
> > Replacement and adjustment of drive chains.
> >
> > Cleaning carbon, grinding and adjusting valves.
> >
> > Timing engine valves.
> >
> > Fitting new piston rings.
> >
> > Fitting new piston and cylinder.
> >
> > Replacement of transmission assembly.
> >
> > Removal and replacement of generator and magneto.
> >
> > Replacement of a wheel spoke.
> >
> > Annealing and soldering copper tubing.
> >
> > Location of minor faults in the electrical system.
>
> Testing gravity of electrolyte and adding water.
>
> A fair knowledge of elementary electricity and magnetism.

To qualify for Group B, the candidate, in addition to the requirements for Group C, must satisfactorily demonstrate:—

Ability to use and maintain all hand and shop tools provided for rebuilding motorcycles, including precision measuring tools.

A sound knowledge of the limits of allowable wear in motorcycle parts for use in rebuilding.

A sound knowledge of standard screw threads used in motorcycles of British and American manufacture and ability to select drill and tap si see.

Ability to rebuild motorcycles to a condition equal to new.

Ability to braze and weld.

A good knowledge of lubrication requirements.

A good knowledge of elementary magnetism and electricity.

A sound practical knowledge of accumulator construction and maintenance.

Ability to make clear diagrams and dimensioned sketches and to read blue prints.

Mechanic (Radio) aka Mechanic (Radar)

The Mechanic (Radio) trade was created early in the war to repair electronic equipment not associated with communications. The term “radio” was later changed to “radar”. The companion trade was Mechanic (Wireless).

[Trades 1943] lists the Mechanic (Radio) trade.

When RCEME was created, [CARO 4230] transferred all RCOC Mechanics (Radio) to RCEME.

When RCEME was created, the Mechanic (Radio/Radar) trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] does not list the Mechanic (Radio) trade.

During the Second World War, Mechanic (Radio) could be found in the 1st Radar Battery Workshop, and any other RCEME units that supported a radar unit.

The Mechanic (Radio) trade had two groups: C and B.

The Mechanic (Radio) trade was probably converted to the Telecommunication Mechanic.

Mechanic (Radio) Trade Test in 1943 [Trades 1943]

To qualify for Group C, the Candidate had to:

> Pass the trade test for Instrument Mechanic (Signals) Group C.

To qualify for Group B, the Candidate, in addition to the requirements for Group C, had to:

> Pass the trade test for Instrument Mechanic (Signals) Group B.

Mechanic, Vehicle (aka Vehicle Mechanic) (1944)

The Mechanic, Vehicle (without further designation) trade is probably either a misprint, or the result of trades changes that were ongoing at the time RCEME was formed.

When RCEME was created, [CARO 4230] transferred all RCOC Mechanics, Vehicle to RCEME.

[Trades 1943] does not list the Mechanic, Vehicle (without further designation) trade.

[Trades 1944] does not list the Mechanic, Vehicle (without further designation) trade.

[Trades 1944 AL 1] lists the Vehicle Mechanic (MV) (AFV) trade when the Fitter (MV) and Fitter (AFV) trades were converted to the Vehicle Mechanic (MV) (AFV) trade.

The Mechanic, Vehicle trade noted in CARO 4230 is believed to be an error because of the transition of the trades when the CARO was written.

See the Vehicle Mechanic (MV) (AFV) trade.

Mechanic (Wireless)

[Trades 1943] lists the Mechanic (Wireless) trade. The companion trade was Mechanic (Radio).

When RCEME was created, [CARO 4230] transferred all RCOC Mechanic Wireless to RCEME.

When RCEME was created, the Mechanic (Wireless) trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] does not list the Mechanic (Wireless) trade.

During the Second World War, Mechanic (Wireless) could be found in second, third, and fourth line RCEME units.

The trade had two groups: C and B.

This trade was probably replaced by the Telecommunication Mechanic at an unknown date

Mechanic (Wireless) Trade Test in 1943 [Trades 1943]

To qualify for Group C, the candidate had to:

> Pass the trade test for Electrician (Signals) Group C.

To qualify for Group B, the Candidate, in addition to the requirements for Group C, had to:

> Pass the trade test for Electrician (Signals) Group B.

Mechanist

When RCEME was created, [CARO 4230] transferred to RCEME any RCASC Mechanists who were in a unit converted to RCEME.

When RCEME was created, the Mechanist trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] lists the Mechanist trade as applicable to RCEME, RCASC, and CWAC.

During the Second World War, no reference to a Mechanist has been found in a RCEME unit establishment.

The trade had only one group: A.

On 15 June 1945, DEME advised the Director of Military Training that there were no Mechanist in the RCEME Home War Establishments (ie, in Canada), and that it was unlikely that they would be added to the establishments in Canada in the future. [LAC - Policy - Training of Tradesmen, RCEME]

A DEME memo on 30 January 1946 advised that the Mechanist trade was no longer required by RCEME and could be deleted from the list of RCEME trades.

[CARO 6579 (1946)] combined the Vehicle Mechanic (AFV) and Vehicle Mechanic (MV), Fitter Signals, and Mechanist trades into the Vehicle Mechanic Group 2, Group 3 trade. The trade did not have a Group 1 - the Driver Mechanic trade filled that function.

See the Vehicle Mechanic trade.

Mechanist Trade Test in 1944 [Trades 1944]

The Mechanist trade had one level: Group A. To qualify for Group A, the candidate, in addition to fulfilling the requirements as set out in the footnote to this test and having previously qualified Group A in a trade represented on the war establishment of a unit in his Corps, must satisfactorily demonstrate:

> A working knowledge of mechanical and heat' units, practical mathematics and engineer draughting.
>
> Ability to diagnose trouble in the mechanical, electrical, hydraulic, pneumatic and fuel supply systems of machinery on charge to his unit.
>
> Ability to specify the work required for repairing and reconditioning machines, and to direct, and generally supervise the repair and complete reconditioning of machines on charge to his unit.
>
> A good knowledge of I.C. engines, spark ignition, compression ignition and semi-diesel types; ignition, carburetion and fuel injection equipment; installation and testing.
>
> A good knowledge of fuel and lubrication requirements and the fuel and lubrication systems for each of the types of engines above.
>
> A good knowledge of general lubrication and lubricants for the equipment of his unit.

A good knowledge of materials and shop supplies, shop and hand tools, soldering, brazing, welding by acetylene and arc, and oxyacetylene cutting.

A sound theoretical and practical knowledge of D.C. electrical apparatus, workshop lorries, and equipment issued to his unit.

A practical knowledge of the construction and maintenance of batteries (accumulators) and a sound knowledge of recharging methods and battery charging equipment.

Ability to use electrical instruments limited to those issued to his unit.

Ability to determine the condition of unit equipment, shop tools and supplies and to prepare written reports thereon.

Knowledge of machine records and inspection, “taking over” and “handing over” procedure.

Knowledge of methods of immobilization, demolition and destruction of machines.

Ability to instruct in the 13 foregoing items.

Metals Technician

In 1964, DEME proposed a new trade of Metals Technician. “This new trade combines the existing trades of Welder Groups 1, 2 and 3 (dated January 62) and Body Repairman Groups 2 and 3 (dated September 63). Job analysis also revealed that those tradesmen employed on the structural repair of aircraft required special knowledge and skills to satisfactorily perform their duties. Accordingly, at the Group 3 level, the tradesman after attending a common course at Group 3 will continue on a specialized course to qualify him to repair either aircraft or ground equipments. The trade has been evaluated and the results warrant the granting of pay level 3Y, either as a Metals Technician (Ground) Group 3 or a Metals Technician (Air) Group 3. The details of the remustering action and training required of Welders and Body Repairman are contained in paragraph 10, Implementing Instructions, of the specification.” [LAC - Policy - Training of Tradesmen, RCEME]

The 183rd Meeting of the Army Trades Committee on 25 September 1964 was in favour of the trades regrouping, and approved the designation of obsolescent for the Airplane Technician, Helicopter Technician, Body Repairman, and RCEME Welder trades. [LAC - Policy - Training of Tradesmen, RCEME]

The Metals Technician replaced the Body Repairman and Welder Trades about 1965 [LAC].

There is an LAC file on this trade, which contains little information.

The RCEME Technical Bulletin, Vol 11, No. 4, in October 1966, noted that the Metals Technician trade was transferred to the Air Force.

Millwright

[CARO 4230] does not list the Millwright as an RCOC trade.

When RCEME was created, [CARO 4230] transferred to RCEME any RCASC Millwrights who were in a unit that was converted to RCEME.

When RCEME was created, the Millwright trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] lists the Millwright trade as applicable to RCEME, RCE and CFC.

During the Second World War, Millwrights could be found in fourth line RCEME units.

The Millwright trade had three groups: C, B, and A.

[CARO 6579 (1946)] reclassified the Millwright trade as a Group 1, Group 2, Group 3 trade.

[CAO 269-1 (1947)] confirmed the Millwright trade as a Group 1, Group 2, Group 3 trade.

[CAO 269-1 (1949)] transferred the Millwright trade to the RCE and it was no longer a RCEME trade. It was deemed to be a wartime trade only.

Millwright Trade Test in 1944 [Trades 1944]

The Millwright trade had three levels: Group C, Group B, and Group A. To qualify for Group C, the candidate had to:

> Know the names of, be able to use and keep in order the tools used in his trade.
>
> Be able to fix a belt to any machine.
>
> Be able to cut a keyway in a shaft and a pulley, and fit key.
>
> Have a general knowledge of lubrication and lubricants and be able to cut an oil groove in a shaft bearing.
>
> Be able to dismantle and erect simple machinery such as small lathes, grinding wheels and circular saws.

To qualify for Group B, the candidate, in addition to the requirements for Group C, had to:

> Be able to dismantle and erect a wheel lathe, boring mill, planing machine and drilling machine? complete with counter shaft.
>
> Be able to line up and erect shafting.
>
> Be able to repair a portable compressed air drill.

To qualify for Group A, the candidate, in addition to the requirements for Group C and Group B, had to:

> Pass the test for Fitter Group C.
>
> Pass the test for Carpenter Group C.
>
> Be able to make simple forgings.

Be able to calculate the sizes of pulleys required for machines of different speeds, the speed of motor and speed of machine being given.

Be able to stiffen and strengthen a building for the installation of machinery and line shafts.

Have a thorough knowledge of lubrication systems and lubricants.

Be able to erect from drawings any type of machine, crane or power plant and make sketches.

Motor Assembler

The Motor Assembler was the Motor Mechanic's assistant. The trade was discontinued in 1943, and presumably blended into the Motor Mechanic trade. The trade does not appear in [Trades 1944], but still appears in the establishment for 1 Canadian Base Workshop, RCEME, in 1944. [CARO 4230] does not refer to the trade.

Moulder

The Moulder trade was originally open to the RCE and RCOC. [Trades 1944]

When RCEME was created, [CARO 4230] transferred all RCOC and RCASC Moulders to RCEME.

When RCEME was created, the Moulder trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

The Moulder trade is listed as applicable to RCEME in [Trades 1944], but is not applicable to RCASC.

During the Second World War, Moulders could be found in fourth line RCEME units.

The Moulder trade had two groups: C and B.

[CARO 6579 (1946)] reclassified the Moulder trade as a Group 1, Group 2 trade.

[CAO 269-1 (1947)] confirmed the Moulder trade as a Group 1, Group 2 trade.

[CAO 269-1 (1949)] confirmed the Moulder trade as a Group 1, Group 2 trade assigned to RCEME. It was considered a wartime trade only.

[CAO 269-1 (1950)] listed the Moulder trade as a Group 1, Group 2 trade assigned to RCEME. It was considered a wartime trade only.

[CAO 269-1 (1952)] listed the Moulder trade as a Group 1, Group 2 trade assigned to RCEME as a wartime trade only.

The Army Trades Committee classified the Moulder trade as obsolete on 15 December 1960 [RCEME Archives]. At that time, there were no RCEME tradesmen being paid as a Moulder.

Moulder Trade Test in 1944 [Trades 1944]

The Moulder trade had two levels: Group C and Group B. To qualify for Group C, the candidate had to:

> Be able properly to use the following tools: Shovel, rammer, scoop, trowel, hammer, file, moulding boxes, patterns, forming tools and moulding machines.
>
> Be able to keep in order and properly to adjust the above tools.
>
> Be able to correctly mould and pour a casting similar to that shown in Plate No. 5 such as a chain sheave, double flanged pulley, small toothed gear wheel, worm and worm wheel, large pulley, side frame for a winch or a flanged pipe including the basic operations of making a moulding box, ramming a parting, caping out, gating, venting, pouring, cleaning and breaking off the gate. Understand how to mould using all types of patterns, solid, split, sectional and segment, and the uses of flour, graphite and water in making moulds. Be able to distinguish between different metals.
>
> Be able to do simple arithmetic using fractions and decimals; to read simple blue prints including hatching denoting metals and materials. Know the causes and

cures of blowholes, sponginess, shrink holes, scabbiness, sand holes, floating cores, cold shuts and shrinkage strains.

To qualify for Group B, the candidate in addition to the requirements for Group C, had to:

Be able to correctly mould and pour a job similar to that shown in Plate No. 6 such as a manifold. Smith's trough, valve body, stem and wheel, small cylinder with covers and valves, or a flanged Venturi tube. Know how all moulds should be made; the size of box, wet or dry sand moulding, the holding of cores, shrinkage with different metals and loam moulding.

Be able to read any ordinary blue print coming into the shop and to be able to make a rough dimensioned sketch of a simple article such as a casting for a bushing; to operate and keep in order an iron cupola or crucible brass furnace including the mixing of the metal and know aluminum or white metal castings. Know how to make cores and the proper mixture for alloys to be used for certain purposes. Have some knowledge of pattern making.

Operator, Tire Repair Plant

When RCEME was created, [CARO 4230] transferred all RCOC Operators, Tire Repair Plant to RCEME.

[Trades 1944] does not list the Operator, Tire Repair Plant trade.

[CARO 6579 (1946)] does not list the Operator, Tire Repair Plant trade.

No description of this trade has been found.

Painter & Decorator

When RCEME was created, [CARO 4230] transferred to RCEME any RCOC Painter and Decorators who were in a unit converted to RCEME.

When RCEME was created, the Painter and Decorator trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] lists the Painter & Decorator trade as applicable to RCEME, RCE, RCASC, RCAMC, and CWAC.

During the Second World War, Painters and Decorators could be found in fourth line RCEME units.

The trade had two groups: C and B.

[CARO 6579 (1946)] combined the Painter & Decorator trade with the Coach Painter and reclassified it as a Painter as a Group 1, Group 2 trade.

[CAO 269-1 (1947)] confirmed the Painter trade as a Group 1, Group 2 trade.

[CAO 269-1 (1949)] confirmed the Painter trade as an RCE trade, and it was no longer applicable to RCEME.

Painter & Decorator Trade Test in 1944 [Trades 1944]

The trade had two levels: Group C and Group B. To qualify for Group C, the candidate had to:

> Know the names of, be able to use and to keep in order, the tools and equipment with which his unit is issued.
>
> Have a thorough knowledge of the preparation of surfaces for painting, and be able to do ordinary painting, enamelling, staining and varnishing.
>
> Have a thorough knowledge of the preparation for application of paints, enamels, varnishes and stains.

To qualify for Group B, the candidate, in addition to the requirements for Group C, had to:

> Have a thorough knowledge of tinting and of the properties of the various kinds of paint and paint products, enamel, stain, varnish and polish, and of their mixing, storing and preservation.
>
> Be able to cut stencils and glass, and glaze, and do good plain lettering.
>
> Have a good knowledge of spray painting and be able to adjust and keep in order spray painting equipment.
>
> Be able to estimate time and materials required for a job, and to prepare estimates from plans and specifications.

Pattern Maker

When RCEME was created, [CARO 4230] transferred all RCOC and RCASC Pattern Makers to RCEME. NOTE discrepancy with [Trades 1944].

When RCEME was created, the Pattern Maker trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] lists the Pattern Maker trade as applicable to RCE and RCEME.

During the Second World War, Pattern Makers could be found in fourth line RCEME units.

The Pattern Maker trade had three groups: C, B, and A.

[CARO 6579 (1946)] reclassified the Pattern Maker trade as a Group 1, Group 2, Group 3 trade.

[CAO 269-1 (1947)] confirmed the Pattern Maker trade as a Group 1, Group 2, Group 3 trade.

[CAO 269-1 (1949)] confirmed the Pattern Maker as a Group 1, Group 2, Group 3 trade assigned to RCEME.

[CAO 269-1 (1950)] listed the Pattern Maker as a Group 1, Group 2, Group 3 trade assigned to RCEME.

[CAO 269-1 (1952)] listed the Pattern Maker as a Group 1, Group 2, Group 3 trade assigned to RCEME.

The Army Trades Committee classified the Pattern Maker trade as obsolete on 15 December 1960 [RCEME Archives]. At that time, there was one RC Sigs tradesman (noted as an anomaly) and no RCEME tradesmen being paid as a Pattern Maker.

Pattern Maker Trade Test in 1944 [Trades 1944]

The Pattern Maker trade had three levels: Group C, Group B, and Group A. To qualify for Group C, the candidate had to:

> Be able properly to use the following tools: hammer, saw, chisel, gauge, plane, spoke shave, draw knife, laying out tools, including square, dividers, compasses, marking gauge and depth gauge, sander, circular saw, jig saw, band saw, wood planer and wood lathe.
>
> Be able to keep in order and properly to adjust the above tools.
>
> Be able to execute within the given limits a job similar to that shown in Plate No. 5, including the basic operations of sawing, laying out, planing, turning and finishing.
>
> Be able to give a pattern its proper draft.
>
> Be able to produce various types of wood joints.
>
> Be able to apply protective finish.
>
> Be able to do simple arithmetic, using fractions and decimals.

Be able to make a freehand dimensioned sketch of a simple article Such as a piston or pulley.

Be able to read simple blue prints.

Be able to distinguish between different woods and different metals.

To qualify for Group B, the candidate, in addition to the requirements for Group C, had to:

Be able to use inside and outside callipers, file, drill press, bench grinder, and construction rules.

Be able to adjust property and keep in order the above tools.

Be able to execute correctly, within the given limits, a job similar to that shown in Plate No. 6, including the basic operations of drilling, dowelling, making a glued joint, soldering, reaming, tapping and sharpening a twist drill.

Be able to prepare glue for joining and varnish for protecting patterns.

Know the -different types of patterns, solid, split and sectional and where each type should be used.

Know the proper allowances, for contraction of various metals and the variations in contractions due to different shapes.

Know the proper allowances for machining.

Know how to prepare core boxes and the proper size and position of core prints.

Know the most suitable woods for patterns of various sizes and purposes.

Know the drawing conventions and notations employed for operations.

Be able to calculate the weight of a casting from the weight of the pattern.

To qualify for Group A, the candidate, in addition to the requirements for Group B, had to:

Know aspects of moulding and machine shop practice as they affect pattern making.

Photographer, Dry Plate (aka Photographer?)

When RCEME was created, [CARO 4431] transferred to RCEME any RCOC Photographers, Dry Plate who were in a unit that was converted to RCEME.

When RCEME was created, the Photographer (Dry Plate) trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] does not list the Photographer (Dry Plate) trade. The trade is believed to have become part of the Photographer trade.

[Trades 1944] lists the Photographer trade as applicable to RCEME, RCE, RCASC, and RCAMC.

On 15 June 1945, DEME advised the Director of Military Training that there were no Photographers in the RCEME Home War Establishments (ie, in Canada), and that it was unlikely that they would be added to the establishments in Canada in the future. [LAC - Policy - Training of Tradesmen, RCEME]

[CARO 6579 (1946)] reclassified the Photographer trade as a Group 1, Group 2, Group 3, Group 4 trade.

[CAO 269-1 (1947)] confirmed the Photographer trade as a Group 1, Group 2, Group 3 Group 4 trade assigned to the RCE.

Photographer Trade Test in 1944 [Trades 1944]

The trade had three groups: C, B, and A. To qualify for Group C, the candidate had to:

Be able to prepare all chemical solutions used in his trade.

Be able to wash and substratum glass.

Be able to make a negative to size required from good copy.

Be able to do simple duffing of defects.

To qualify for Group B, the candidate, in addition to the requirements for Group C:

Have a knowledge of elementary chemistry.

Have a knowledge of lens properties and of focal length.

Have a knowledge of Dry and Wet plate Photography.

Be able to make negatives to scale of simple subjects.

Be able to retouch negatives.

To qualify for Group A, in addition to the requirements for Group C and Group B:

Have a knowledge of camera and darkroom maintenance.

Be able to scale copies of maps of 1-inch Ordnance Survey Standard.

Understand colour separation of maps to five colours.

Have a knowledge of all stages of Litho Printing.

Be able to make separation negatives in scale and register.

Plumber (aka Plumber and Pipe Fitter?)

When RCEME was created, [CARO 4230] transferred to RCEME any RCOC Plumbers who were in a unit that was converted to RCEME.

When RCEME was created, the Plumber trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] lists the Plumber and Pipe Fitter trade as applicable to RCE and RCEME.

During the Second World War, no Plumbers and Pipe Fitters have been found in RCEME unit establishments.

The trade had two groups: B and C.

On 15 June 1945, DEME advised the Director of Military Training that there were no Plumber and Pipe Fitters in the RCEME Home War Establishments (ie, in Canada), and that it was unlikely that they would be added to the establishments in Canada in the future. [LAC - Policy - Training of Tradesmen, RCEME]

[CARO 6579 (1946)] reclassified the trade as a Group 1, Group 2, Group 3 trade.

[CAO 269-1 (1947)] confirmed the trade as a Group 1, Group 2, Group 3 trade.

[CAO 269-1 (1949)] confirmed the trade as an RCE trade, and it was no longer applicable to RCEME.

Plumber Trade Test in 1944 [Trades 1944]

The trade had two groups: C and B. To qualify for Group C, the candidate had to:

> Know the names of, be able to use and keep in order, plumber’s and pipefitter’s tools.
>
> Be capable of making sanitary and water installation using lead, cast iron and wrought iron pipe, or other types of commercial pipe.

To qualify for Group B, the candidate, in addition to the requirements for Group C, had to:

> Have a knowledge of:
>
> > Domestic Hot and Gold Water Supplies.
> >
> > Sanitary Appliances.
> >
> > Cocks of all kinds.
> >
> > Flushing arrangements.
>
> Material and fittings used, for water and waste pipe.
>
> Be able to estimate time and materials required, and to lay out work from plans and specifications and make simple sketches.

Projector Mechanic

This was a renamed Senior Projectionist trade.

See Senior Projectionist.

See also Senior Projectionist and Projector Clerk trades.

Push Cycle Repairer

When RCEME was created, [CARO 4230] transferred all RCOC Push Cycle Repairers to RCEME.

When RCEME was created, the Push Cycle Repairer trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] lists the Push Cycle Repairer trade as applicable to RCEME.

During the Second World War, Push Cycle Repairers could be found in the Infantry Divisional Increment of a fourth line RCEME Base Workshop, and in No. 1 Sub-Workshop, RCEME.

The trade was a Group C trade only.

[CARO 6579 (1946)] deleted the Push Cycle Repairer trade.

Push Cycle Repairer Trade Test in 1944 [Trades 1944]

The trade had one level: Group C. To qualify for Group C, the candidate had to:

> Know the names of and be able to use and keep in order the tools in a bicycle repairer’s tool kit.
>
> Be able to strip, assemble and adjust a service bicycle in a maximum time of 4 hours.
>
> Be able to build and true a wheel from a dismantled condition in a maximum time of 2 hours.
>
> Be able to replace and braze damaged frame members on a service bicycle.
>
> Be able to reset frames and forks.
>
> Be able to thread, drill and tap, to use files and soldering iron.
>
> Be able to fit a new crank cotter to a pedal crank.

Projectionist Clerk

There is an LAC file on this trade. [LAC Reference: Policy of Training and Qualifications - Projectionist Clerk. RG24-C-1-c, Volume/box number 31368, File number 3202-P49.] The file includes a trade specification for the Projector Mechanic Group 1 in 1952 (see the Senior Projectionist trade).

It is probable that the Projectionist Clerk trade was a renamed Projector Mechanic trade, which was itself a renamed Senior Projectionist trade. However, no specific source document has been found.

The Projectionist Clerk trade is included in RCEME Technical Bulletin Vol. 6, No.1, February 1961, which listed all RCEME trades and common trades applicable to RCEME and their authorized trade groups in 1960.

The 170th meeting of the Army Trades Committee on 20 March 1961 deleted the Projectionist Clerk trade from the Canadian Army. At that time, there were only six established positions and four tradesmen in the army. [LAC - ATC]

See also Senior Projectionist and Projector Mechanic trades.

Radar Mechanic

The Radar Mechanic was a short-lived trade that evolved from the Telecommunication Mechanic in 1949, which was a Second World War trade assigned to RCEME, before being replaced by the Telecommunication Mechanic (Radar) in 1950.

[CARO 6579 (1946)] combined the Electrician (Radar), Electrician (Signals), Armament Artificer (Radar), Armament Artificer (Wireless), Instrument Mechanic (Signals), and Telecommunication Mechanic trades into a single Telecommunication Mechanic trade as a Group 1, Group 2, Group 3, Group 4 trade.

[CAO 269-1 (1947)] confirmed the Telecommunication Mechanic trade as a Group 1, Group 2, and Group 3 trade. The Group 4 level became the Telecommunication Artificer Group 4 trade.

[CAO 269-1 (1949)] split the confirmed Telecommunication Mechanic trade into a Radio Mechanic Group 1, Group 2, and Group 3 trade assigned to RCEME and RC Sigs; and a Radar Mechanic Group 1, Group 2, and Group 3 trade assigned to RCEME and RCA.

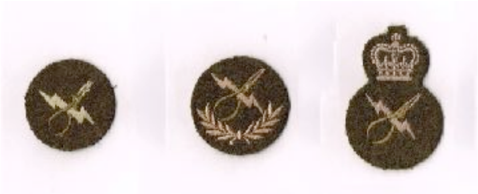
[CAO 269-1 dated 6 February 1950] cancelled the applicability of the Radar Mechanic trade to the RCA, leaving it a RCEME trade.

[CAO 269-1 (1950)] replaced the Line Mechanic, Radio Mechanic, and Radar Mechanic trades with the Telecommunication Mechanic (Field), Telecommunication Mechanic (Line of Communication - LOC), and Telecommunication Mechanic (Radar) trades as Group 1, Group 2, Group 3 trades assigned to RCEME.

In 1955, the Telecommunication Mechanic (Field) was renamed Radio Technician, the Telecommunication Mechanic (Radar) was renamed Radar Technician, and the Telecommunication Mechanic (Line of Communication) was renamed to Communication Systems Technician in 1956. [Skill at Arms]

See the Telecommunication Mechanic and Radar Technician trades.

Radar Technician



Radar Technician
Group 1, Group 2, Group 3
(Courtesy Gord Goddard)

In 1955, the Telecommunication Mechanic (Field) was renamed Radio Technician, the Telecommunication Mechanic (Radar) was renamed Radar Technician, and the Telecommunication Mechanic (Line of Communication) was renamed to Communication Systems Technician in 1956. [Skill at Arms]

There is an LAC file on the Radar Technician. [LAC Reference: Policy of Training and Qualifications - Radar Technician 1951-1954. RG24-C-1-c, Volume/box number 31368, File number 3202-R3.]

In 1955, the Radio Technician, Radar Technician, Fire Control System Technician (AA) and Communication Technician shared a common Group 1 trades specification. A copy has been placed on the RCEME Historical Database and on the Internet Archive.

A memo in June 1960 noted that the Radar Artificer and Radar Technician were not being fully employed because most of the equipment on which the trade was based had been removed from service. However, some trials were still taking place in Shilo and Churchill. [RCEME Archives]

The Radar Technician Trade was transferred to CELE on Unification. [RCEME Technical Bulletin, Vol. 11, No. 4, October 1966]

RADIAC Mechanic (Militia)

The 174th meeting of the Army Trades Committee on 14 March 1962 approved the specification of the RADIAC Mechanic (Militia) Group 1, Group 2 trade.

This was a militia trade only, to calibrate, test, and carry out unit repairs to RADIAC equipment for National Survival.

A trade specification for the RADIAC Mechanic (Militia) Group 1 and Group 2 has been found and placed on the RCEME Historical Database and on the Internet Archive.

Radio Mechanic

The Radio Mechanic was a short-lived trade that evolved from the Telecommunication Mechanic in 1949, which was a Second World War trade assigned to RCEME, before being replaced in RCEME by the Telecommunication Mechanic (Field) and Telecommunication Mechanic (Line of Communication - LOC) in 1950.

[CARO 6579 (1946)] combined the Electrician (Radar), Electrician (Signals), Armament Artificer (Radar), Armament Artificer (Wireless), Instrument Mechanic (Signals), and Telecommunication Mechanic trades into a single Telecommunication Mechanic trade as a Group 1, Group 2, Group 3, Group 4 trade.

[CAO 269-1 (1947)] confirmed the Telecommunication Mechanic trade as a Group 1, Group 2, and Group 3 trade. The Group 4 level became the Telecommunication Artificer Group 4 trade.

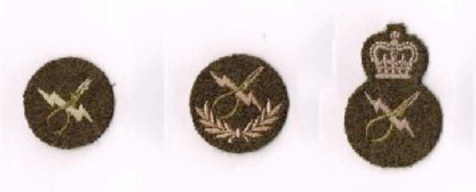
[CAO 269-1 (1949)] split the confirmed Telecommunication Mechanic trade into a Radio Mechanic Group 1, Group 2, and Group 3 trade assigned to RCEME and RC Sigs, and a Radar Mechanic Group 1, Group 2, and Group 3 trade assigned to RCEME and RCA.

[CAO 269-1 (1949)] listed the Radio Mechanic as a Group 1, Group 2, and Group 3 trade assigned to RC Sigs and no longer applicable to RCEME.

[CAO 269-1 (1950)] replaced the Line Mechanic, Radio Mechanic, and Radar Mechanic trades with the Telecommunication Mechanic (Field), Telecommunication Mechanic (Line of Communication - LOC), and Telecommunication Mechanic (Radar) trades as Group 1, Group 2, Group 3 trades assigned to RCEME.

See the Telecommunication Mechanic and Radio Technician trades.

Radio Technician



Radio Technician
Group 1, Group 2, Group 3
(Courtesy Gord Goddard)

In 1955, the Telecommunication Mechanic (Field) was renamed Radio Technician, the Telecommunication Mechanic (Radar) was renamed Radar Technician, and the Telecommunication Mechanic (Line of Communication) was renamed to Communication Systems Technician in 1956. [Skill at Arms]

There is an LAC file on the Radio Technician. [LAC Reference: Policy of Training and Qualifications - Radio Technician 1955-1960. RG24-C-1-c, Volume/box number 31368, File number 3202-R12.]

A 1955 trade specification for the Radio Technician Group 2 has been found and placed on the RCEME Historical Database and on the Internet Archive.

In 1955, the Radio Technician, Radar Technician, Fire Control System Technician (AA) and Communication Technician shared a common Group 1 trades specification. A copy has been placed on the RCEME Historical Database and on the Internet Archive.

A 1960 document noted that there was no trade specification for the Radio Technician Group 3. [LAC ATCSC]

The Radio Technician Trade was transferred to CELE on Unification. [RCEME Technical Bulletin, Vol. 11, No. 4, October 1966]

Recovery Mechanic

The Recovery Mechanic was a new trade created after the war. It formed part of the Vehicle Mechanic family of trades, and wore the same badges.

[CAO 269-1 (1950)] lists the Recovery Mechanic as a new Group 2, Group 3 trade assigned to RCEME. The Driver Mechanic trade or the Vehicle Mechanic (Tracked) or (Wheeled) trades served as the Group 1 level.

[CAO 269-1 (1952)] lists the Recovery Mechanic as a Group 2, Group 3 trade assigned to RCEME.

There is an LAC file on the trade. [LAC Reference: Policy of Training and Qualifications - Recovery Mechanic 1953-1954. RG24-C-1-c, Volume/box number 31368, File number 3202-R11.] This file contains trade standards for the Recovery Mechanic Group 2 1954 and Recovery Mechanic Group 3 1954. Both standards have been placed on the RCEME Historical Database and on the Internet Archive.

The 140th meeting of the Army Trades Committee on 30 November 1954 deleted the trade of Recovery Mechanic Group 2, Group 3 trade, whose functions had been taken over by the Vehicle Mechanic trade. [LAC-ATC]

Recovery Mechanic (Militia)

The 174th meeting of the Army Trades Committee on 14 March 1962 approved the specification of the Recovery Mechanic (Militia) Group 1, Group 2 trade.

A trade specification for the Recovery Mechanic (Militia) Group 2 has been placed on the RCEME Historical Database and on the Internet Archive.

Refitter, Textile aka Textile Refitter

When RCEME was created, [CARO 4230] transferred to RCEME any RCOC Refitters, Textile who were in a unit that was converted to RCEME.

In the Canadian Army Overseas, all RCOC Textile Refitters were transferred to RCEME when RCEME was created, but the trade was removed from the list by an amendment to the Overseas Routine Order.

When RCEME was created, the Textile Refitter trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] lists the trade as applicable to RCOC and RCEME.

During the Second World War, Refitters, Textile could be found in second, third, and fourth line line RCEME units.

The trade had two groups: C and B.

On 15 June 1945, DEME advised the Director of Military Training that there were no Textile Refitters in the RCEME Home War Establishments (ie, in Canada), and that it was unlikely that they would be added to the establishments in Canada in the future. [LAC - Policy - Training of Tradesmen, RCEME]

[CARO 6579 (1946)] combined the Refitter, Textile with the Equipment Repairer trade and reclassified it as a Textile Refitter Group 1 trade.

This trade probably became the Leather and Textile Worker an an unknown date.

[CAO 269-1 (1949)] assigned the Leather and Textile Worker to the RCOC and it was no longer part of RCEME.

Textile Refitter Trade Test in 1944 [Trades 1944]

The trade had two levels: Group C and Group B. To qualify for Group C, the candidate had to:

> Know the names of, be able to use and care for the tools and equipment of the trade.
>
> Have a general knowledge of the different classes of textiles used in the service.
>
> Be able to machine and hand sew; sew coarse canvas and darn neatly.
>
> Be able to carry out in a competent manner repairs to sheets, blankets, tents and to effect simple repairs to waterproof fabrics and leather goods.

To qualify for Group B, the candidate, in addition to the requirements for Group C, had to:

> Have a thorough knowledge of textile materials and leathers.
>
> Be able to cut out patterns in an economic manner from any given piece of material.
>
> Be able to carry out any repairs to tents, waterproof fabrics, simple upholstery and leather goods.

Riveter

When RCEME was created, [CARO 4230] transferred all RCOC Riveters to RCEME.

When RCEME was created, the Riveter trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] lists the Riveter trade as applicable to RCE and RCEME.

During the Second World War, Riveters could be found in fourth line RCEME units.

The trade had two groups: C and B.

[CARO 6579 (1946)] reclassified the Riveter trade as a Group 1, Group 2 trade.

[CAO 269-1 (1947)] confirmed the Riveter trade as a Group 1, Group 2 trade.

[CAO 269-1 (1949)] does not list the Riveter trade.

Riveter Trade Test in 1944 [Trades 1944]

The trade had two levels: Group C and Group B. To qualify for Group C, the candidate had to:

> Be able properly to use the following tools: forge, tongs, hammer, dolly, caulking tools, files, hacksaw, air hammer (hydraulic or electric), shearing machines, punching machines, drill press, bench grinder, electric drill, chisel (bucking up tool), and power hacksaw.
>
> Be able to keep in order and properly to adjust the above tools.
>
> Be able to execute correctly a job similar to that shown in Plate No. 7, incorporating the basic operations of cutting, drilling, reaming, heating, bucking up, driving and heading, to make simple lap and butt- joints; to drill out a rivet, ream and rerivet; to sharpen a twist drill; to use an oxyacetylene cutting torch; to know the various types of rivet heads, their particular application, and the sizes of rivets.
>
> Be able to do simple arithmetic using fractions and decimals; to make a simple freehand dimensioned sketch of a simple article such as a rivet or bolt;' to read simple structural blue prints; to distinguish between different metals.

To qualify for Group B, the candidate, in addition to the requirements for Group C, had to:

> Be able to use the following tools: riveting machines of all sizes, callipers and laying out tools including centre punch, compasses, dividers, scale, scriber, square and protractor.
>
> Be able to keep in order and properly to adjust the above tools.
>
> Be able to execute a job similar to that shown in Plate No. 7, incorporating the operations of laying out, making triple butt or lap joints, caulking on flat or curved surfaces; to do in a skilled manner any job of riveting given him (making an air tight joint if necessary); to heat treat his own tools.

Be able to read any structural blue prints; to make a dimensioned sketch of any work he may have to do; to know the strength of the metals with which he works and the proper types of joints which should be used on each job. To understand the simple effects of heat treatment on iron, steel and brass.

Saddler

When RCEME was created, [CARO 4230] transferred to RCEME any RCOC Saddlers who were in a unit that was converted to RCEME.

When RCEME was created, the Saddler trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] lists the trade as applicable to the RCASC and RCEME.

During the Second World War, Saddlers could be found in fourth line RCEME units.

The trade had two groups: C and B.

[CARO 6579 (1946)] reclassified the Saddler trade as a Group 1, Group 2 trade.

[CAO 269-1 (1947)] does not list the trade.

Saddler Trade Test in 1944 [Trades 1944]

The trade had two levels: Group C and Group B. To qualify for Group C, the candidate had to:

> Know the names of and be able to use efficiently and maintain in good order the tools of the trade.
>
> Possess a knowledge of and be able to judge the suitability of leather for any kind of work.
>
> Be able to do hand and machine sewing, make bill-hook case, pair of hames straps, bag for machine gun spare parts.
>
> Be able to fit and rebuild regulation patterns of saddlery and to make a complete bridle.

To qualify for Group B, the candidate', in addition to the requirements for Group C, had to:

> Have a thorough knowledge of the trade, be able to supervise a shop and keep accounts of work and materials.
>
> Be capable of giving instructions to Group C saddlers.

Saw Doctor

When RCEME was created, [CARO 4431] transferred to RCEME any RCOC Saw Doctors who were in a unit that was converted to RCEME.

When RCEME was created, the Saw Doctor trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] lists the trade as applicable to RCEME, RCE, and CFC.

During the Second World War, Saw Doctors could be found in fourth line RCEME units.

The trade had three groups: C, B, and A.

[CARO 6579 (1946)] incorporated the Saw Doctor into to the Sawyer trade and it ceased to exist as a separate trade.

Saw Doctor Trade Test in 1944 [Trades 1944]

The trade had three levels: Group C, Group B, and Group A. To qualify for Group C, the candidate had to:

> Be able to gullet, sharpen and set all classes of circular saws.
>
> Be capable of setting up and maintaining inserted tooth saws.

To qualify for Group B, the candidate, in addition to the requirements for Group C, had to:

> Be able to braze, re-tooth, sharpen and spring set or swage band saws of all widths.
>
> Be able to swage, set and tension circular saws.

To qualify for Group A, the candidate, in addition to the requirements for Group C and Group B, had to:

> Be able to true up buckled or twisted circular and band saws of all sizes.
>
> Have a thorough knowledge of machines and appliances used in connection with any of the above operations.

Sawyer

When RCEME was created, [CARO 4230] transferred all RCOC Sawyers to RCEME.

When RCEME was created, the Sawyer trade wore the "T" badge relevant to the tradesman's level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] lists the trade as applicable to RCEME, RCE, and CFC.

During the Second World War, Sawyers could be found in fourth line RCEME units.

The trade had two groups: C and B.

[CARO 6579 (1946)] reclassified the Sawyer trade as a Group 1, Group 2, Group 3 trade.

[CAO 269-1 (1947)] confirmed the trade as a Sawyer Group 1, Group 2, Group 3 trade.

[CAO 269-1 (1949)] assigned the Sawyer trade to the RCE, and it was no longer applicable to RCEME. It was considered a wartime only trade at that time.

Sawyer Trade Test in 1944 [Trades 1944]

The trade had two levels: Group C and Group B. To qualify for Group C, the candidate had to:

> Be able to clean, lubricate, and operate the circular and chain saws with which his unit is equipped.
>
> Be able to lace belts.
>
> Know safety precautions to be observed in the use of saws as listed above.

To qualify for Group B, the candidate, in addition to the requirements for Group C, satisfactorily demonstrate:

> The removal and replacement of chain saw teeth.
>
> The filing and setting of saws.
>
> Guile ting or gumming of saws and swaging of saw teeth.
>
> The preparation for brazing, and brazing, of band saws.

Senior Projectionist aka Projector Mechanic

When RCEME was created, [CARO 4945] transferred to RCEME any RCOC Senior Projectionists who were in units converted to RCEME.

When RCEME was created, the Senior Projectionist trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

The trade had one level: Group C.

[Trades 1944] lists the trade as applicable to RCEME.

[CARO 6579 (1946)] reclassified the Senior Projectionist trade as a Group 1, Group 2 trade.

[CAO 269-1 (1947)] confirmed the Senior Projectionist trade as a Group 1, Group 2 trade.

[CAO 269-1 (1949)] confirmed the Senior Projectionist trade as a Group 1 and Group 2 trade assigned to RCEME.

[CAO 269-1 (1950)] listed the Senior Projectionist trade as a Group 1 and Group 2 trade assigned to RCEME.

The 120th meeting of the Army Trades Committee on 19 July 1951 renamed the Senior Projectionist as a Projector Mechanic Group 1, Group 2 trade, and removed the clerical function from the trade.

[CAO 269-1 (1952)] renamed the Senior Projectionist to a Projector Mechanic as a Group 1, Group 2 trade assigned to RCEME.

There is an LAC file on the trade. [LAC Reference: Projectionist Clerk. RG24-C-1-c, Volume 31368, File no. 3202-P49] This includes the trade standard for the Projector Mechanic Group 1 1952, which has been placed on the RCEME Historical Database and on the Internet Archive.

See also Projector Mechanic and Projector Clerk trades.

Senior Projectionist Trade Test in 1944 [Trades 1944]

The trade had two levels: Group C and Group B. To qualify for Group C, the candidate had to:

A civilian background in the Motion Picture Industry (preferably as a Government Graded Projectionist) of at least two years experience, or with equivalent Army experience with portable 16-mm. Sound Film Equipment.

A thorough operating knowledge of the complete portable 16-mm. Sound Film Projectors in Army use, together with their accessory equipment such as microphones, turntables, etc.

An elementary knowledge of electricity up to an understanding of Ohm's Law as applied to D.C. circuits.

A good working knowledge of the theory of sound film recording and reproduction of sound from sound film, as used with 16-mm. Sound Film Projectors.

An elementary knowledge of acoustics and acoustical correction of buildings.

The ability to supervise erection and staging of shows to the best advantage.

The ability to diagnose and correct minor faults in 16-mm picture projector equipment, this to include precision adjustments and replacements of small components in the field.

A sufficient knowledge of optics to adjust, clean and align picture projector optical systems and to be able to select lenses for best advantage under all conditions.

A sufficient knowledge of amplifiers for running maintenance, simple fault finding and eliminating, valve checking and replacing.

A working knowledge of multiple loud-speaker circuits and be able to correct simple faults in them.

A working knowledge of motors, converters, transformers, and be able to undertake routine field servicing of equipments, such as changing of brushes, fuses, resoldering open connections, etc.

The ability to carry out aural tests using sound tracks of varying frequency and other test film.

An elementary knowledge of optical theory as applied to picture ’ projector equipment.

An elementary knowledge of the different types of screens and their characteristics.

A good knowledge of films and their care, to include cleaning and splicing.

Sheet Metal Worker

When RCEME was created, [CARO 4230] transferred all RCOC Sheet Metal Workers to RCEME.

When RCEME was created, [CARO 4230] transferred to RCEME any RCASC Sheet Metal Workers who were in a unit converted to RCEME.

When RCEME was created, the Sheet Metal Worker trade wore the "T" badge relevant to the tradesman's level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] lists the trade as applicable to RCEME, RCE, and RCASC.

During the Second World War, Sheet Metal Workers could be found in second, third, and fourth line RCEME units.

The trade had two groups: C and B.

[CARO 6579 (1946)] reclassified the Sheet Metal Worker trade as a Group 1, Group 2 trade.

[CAO 269-1 (1947)] confirmed the Sheet Metal Worker trade as a Group 1, Group 2 trade.

[CAO 269-1 (1949)] confirmed the Sheet Metal Worker trade as an RCE trade and it was no longer applicable to RCEME.

Sheet Metal Worker Trade Test in 1944 [Trades 1944]

The trade had two levels: Group C and Group B. To qualify for Group C, the candidate had to:

> Know the names of and be able to use and keep in order, the tools of the trade.
>
> Be able to braze and use brazing hearth; to solder or braze tinplate, brass and iron sheet; to work in brass, copper, aluminium, iron (black and tinned) in sheets, tube and cast form; to bend small tubes (brass, copper and iron) and solder or braze unions to them; to make templates and bend pipe to a wire templet; to maintain and repair all tube work, ferrous and non-ferrous; to make saddle joints; to mark out plates; to use hard and soft solders; to use various fluxes correctly; to flange a pipe, to rivet, repair and rebuild petrol tanks; to bump metals; to tin metals, especially copper; to improvise material from scrap heap; to read and prepare simple drawings and to sketch parts.
>
> Have a knowledge of various fluxes and solders required for different metals and types of work.

To qualify for Group B, the candidate, in addition to the requirements for Group C, had to:

> Be able to use correctly, small oxyacetylene welder's torches, shears, automatic and bench, folders and rollers.

Be able to care for, maintain, and repair any tools in general use by coppersmiths and tinsmiths.

Be able to make a radiator coil; to rebuild tubular and honeycomb radiators; to make copper pipe from gauge sheet copper; to anneal and bend tube; to build up cylinders, cones, spheres, etc.; to fit new and repair damaged petrol pipes; operate a small tinsmith or coppersmith shop.

Have a knowledge of elementary mathematics, including fractions and decimals and metric equivalents; elementary metallurgy and uses of different metals and to read blue prints.

Small Arms Artificer

Small Arms Artificer
Group 4

(Courtesy Gord Goddard)

[CAO 269-1 (1949)] first listed the Small Arms Artificer as a Group 4 trade assigned to RCEME.

[CAO 269-1 (1950)] listed the Small Arms Artificer as a Group 4 trade assigned to RCEME.

[CAO 269-1 (1952)] listed the Small Arms Artificer as a Group 4 trade assigned to RCEME.

A 1958 trade specification for the Small Arms Artificer Group 4 has been placed on the RCEME Historical Database and on the Internet Archive.

The Army Trades Committee meeting of 19 October 1959 introduced the Weapons Artificer trade as a Group 4 trade replacing the Small Arms Artificer and Armament Artificer trades. A memo HQ 3667-1 dated 12 August 1960 authorized the trade. [RCEME Archives]

RCEME Technical Bulletin Vol. 6, No.1, February 1961 noted that all Small Arms Artificers should have completed their Weapons Artificer training by August 1961.

See the Weapons Artificer trade.

Steward

[CAO 269-1 (1949)] does not list this trade.

This trade is included in RCEME Technical Bulletin Vol. 6, No.1, February 1961, which listed all RCEME trades and common trades applicable to RCEME and their authorized trade groups in 1960.

This trade was not unique to RCEME and its chronology is not being pursued at this time.

Storeholder (MV)

[CARO 4230] does not list the Storeholder (MV) trade.

[Trades 1944] lists the trade as applicable to RCEME, RCASC and RCOC.

During the Second World War, no reference to a Storeholder (MV) has been found in a RCEME unit establishment. It has been found in the personal record of a RCEME ancestor.

When RCEME was created, the Storeholder (MV) trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

The trade had two groups: C and B.

On 15 June 1945, DEME advised the Director of Military Training that there were no Storeholder (MV) in the RCEME Home War Establishments (ie, in Canada), and that it was unlikely that they would be added to the establishments in Canada in the future. [LAC - Policy - Training of Tradesmen, RCEME]

A DEME memo on 30 January 1946 advised that the Storeholder (MV) trade was no longer required by RCEME and could be deleted from the list of RCEME trades.

[CARO 6579 (1946)] combined the Forman Departmental, Storeholder, Storeholder (MV), and Storeman (Technical and Departmental) trades into the Storeman Group 1, Group 2, Group 3 trades.

See the Storeman trade.

Storeholder (MV) Trade Test in 1944 [Trades 1944]

The trade had two levels: Group C and Group B. To qualify for Group C, the candidate had to qualify as a Storeman (Technical and Departmental) (Experienced in M.T. Spare Parts).

To qualify for Group B, the candidate, in addition to the requirements for Group C, had to:

Qualify as Driver I.C. Class III.

Know how to handle, store and care for vehicle spare parts.

Have a thorough knowledge of Ordnance Accounting as used in Spare Parts Depots and methods of stocktaking.

Know the system of supply and movement of Vehicle Spare Parts, both at home and in the field, and Documentation involved.

Have a knowledge of the vehicle equipment of all branches of

the service and Ordnance in detail.

Understand the general principles and construction of motor vehicles, their components, and relationship of one part to another.

Have a thorough knowledge of parts catalogues and bulletins, the different systems of the numbering and grouping of spare parts and of model identification.

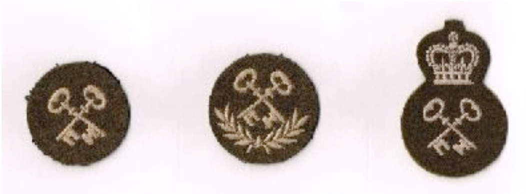
Be able to interpret parts failure and recognize and advise the need for any adjacent parts that may wear or be damaged in the original failure.

Know frequency of parts failures in order to be able to forecast provision intelligently.

Must have a reasonable knowledge of interchangeable parts between various makes and models. Must be familiar with the cross reference system provided.

Must show initiative, resourcefulness, and have a sense of responsibility.

Storeman aka Storeman Clerk



Storeman Clerk
Group 1, Group 2, Group 3
(Courtesy Gord Goddard)

[CARO 6579 (1946)] combined the Forman Departmental, Storeholder, Storeholder (MV), and Storeman (Technical and Departmental) trades into the Storeman Group 1, Group 2, Group 3 trades.

[CAO 269-1 (1947)] confirmed the Storeman trade as a Group 1, Group 2, Group 3 trade.

[CAO 269-1 (1949)] renamed the Storeman trade to a Storeman Clerk Group 1, Group 2, Group 3 trade open to any Corps.

This trade is included in RCEME Technical Bulletin Vol. 6, No.1, February 1961, which listed all RCEME trades and common trades applicable to RCEME and their authorized trade groups in 1960.

This trade was not unique to RCEME and its chronology is not being pursued at this time.

Storeman (Technical and Departmental) (aka Storeman (T & D))

This trade was originally open to all Corps. [Trades 1944]

When RCEME was created, [CARO 4230] transferred to RCEME any RCOC Storemen (Technical and Departmental) who were in units that were converted to RCEME.

When RCEME was created, [CARO 4230] transferred to RCEME any RCASC Storemen (Technical and Departmental) who were in units that were converted to RCEME.

When RCEME was created, the Storeman (Technical and Departmental) trade wore the "T" badge relevant to the tradesman's level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] lists the trade as applicable to all Corps.

During the Second World War, Storemen (Technical and Departmental) could be found in all lines of RCEME units.

The trade had a single level: Group C.

[CARO 6579 (1946)] combined the Forman Departmental, Storeholder, Storeholder (MV), and Storeman (Technical and Departmental) trades into the Storeman Group 1, Group 2, Group 3 trades.

See the Storeman trade.

Storeman (Technical and Departmental) Trade Test in 1944 [Trades 1944]

The trade had one level: Group C. To qualify for Group C, the candidate had to:

> Be neat, orderly and methodical in arranging the stores in bins and lockers.
>
> Be able to write legibly, make neat and accurate ledger entries and have a good general knowledge of accounting.
>
> Be capable of properly packing stores and weighing, marking and addressing packages.
>
> Be familiar with the military nomenclature for stores under his control and know the correct procedure for making out such army forms as concern his work.
>
> Be conversant with and know how to interpret the service abbreviations encountered in his work, i.e., D.A.D.O.S., C.O.S., D.D.M.S., etc.
>
> Have a good general knowledge of the equipment and stores dealt with by his Corps.

Striker or Hammerman (Blacksmith's)

[Trades 1943] lists the Striker or Hammerman (Blacksmith's) trade.

When RCEME was created, [CARO 4230] transferred all RCOC Striker or Hammerman, (Blacksmith's) to RCEME.

[CARO 4431] amended [CARO 4230] to include only the Striker or Hammerman, (Blacksmith's) who were in units converted to RCEME.

When RCEME was created, the Striker or Hammerman (Blacksmith's) trade wore the "T" badge relevant to the tradesman's level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] does not list the Striker or Hammerman (Blacksmith's) trade.

During the Second World War, Striker or Hammerman, (Blacksmith's) could be found in fourth line RCEME units.

The trade had one group: Group C.

[Skill at Arms] claims the trade was discontinued about 1943, and became a Group C Blacksmith. This is at odds with the trade being converted to RCEME and still being on the base workshop establishment in 1944. There could not have been many men in the trade. The absorption into the Blacksmith trade is probable but possibly with sightly different dates.

Striker or Hammerman (Blacksmith's) Trade Test in 1943 [Trades 1943]

The trade had one level: Group C. To qualify for Group C, the candidate had to:

> Be able to build the various types of blacksmith's fires and maintain effective heat with them, be able to strike efficiently and keep the forge and tuyeres clean.
>
> Be able to maintain (true up) emery stones and grind stones.
>
> Be able to temper machine tools made out of tool steel or high speed steel.
>
> Know the names of and maintain in good state of repair, all blacksmith's tools and have a sound knowledge of procedure followed in carrying out all phases of blacksmith's work.
>
> Be able to make simple articles, such as an "S" hook, with aid of forge and anvil.

Supervisor, Workshop (aka Workshop Supervisor)

Workshop Supervisors supervised the operation of the RCOC Returned Stores Depot and the Saddlers, Tailors, Textile Refitters, etc, that worked there, and the maintenance of the machines they operated. It was a Group B trade. [Skill at Arms]

When RCEME was created, [CARO 4230] transferred to RCEME any RCOC Supervisors, Workshop in a unit that was converted to RCEME.

When RCEME was created, the Workshop Supervisor trade wore the "T" badge relevant to the tradesman's level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] lists the Workshop Supervisor trade as applicable to RCOC and RCEME.

During the Second World War, the Workshop Supervisor trade has not been found in the establishment of any RCEME unit.

The trade had only one level: Group B.

On 15 June 1945, DEME advised the Director of Military Training that there were no Workshop Supervisors in the RCEME Home War Establishments (ie, in Canada), and that it was unlikely that they would be added to the establishments in Canada in the future. [LAC - Policy - Training of Tradesmen, RCEME]

A DEME memo on 24 January 1946 advised that the Workshop Supervisor trade was no longer required by RCEME and could be deleted from the list of RCEME trades.

[CARO 6579 (1946)] deleted the Workshop Supervisor trade.

Workshop Supervisor Trade Test in 1944 [Trades 1944]

This trade had only one Group and in order to qualify for Group B, the candidate had to:

> Have a good general knowledge of all Ordnance Trades and be able to estimate the time and materials required in carrying out any job in these trades.
>
> Have a good control over subordinates.
>
> Have ability to supervise the manufacture or repair of Ordnance equipment.
>
> Be able to take charge of all workshop accounting and the maintenance of workshop equipment.
>
> Be responsible to his O.C. for the efficient operation of the Workshop.

Telecommunication Artificer (Radar) aka Radar Artificer aka Master Radar Technician

In the mid 1930s, there were three types of artificer: the Armament Artificer (Fitter), Armament Artificer (Instruments), and Artificer Artillery. With the influx of new weapons and vehicles, the workload became too great and too varied, and new trades were created to repair the new equipment. [Skill at Arms]

The Armament Artificer (Radio, later renamed Radar [Trades 1944 AL1]) was created about 1943 to repair radio equipment other than that used for communication. It was a trade group A, based on the Wireless Mechanic (later Telecommunications Mechanic [Trades 1944 AL 1]) trade and a course at the Military College of Science. The minimum rank was a staff sergeant. [Skill at Arms]

When RCEME was created, [CARO 4230] transferred all RCOC Armament Artificers (Radio) to RCEME.

When RCEME was created, the Armament Artificer (Radar) trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] lists the Armament Artificer (Radio) trade assigned to RCEME.

[Trades 1944 AL1] renamed the Armament Artificer (Radio) trade to Armament Artificer (Radar) assigned to RCEME.

During the Second World War, Armament Artificers (Radar) could be found in specialist second line workshops and in third and fourth line RCEME workshops.

No details of a trades test, or content of the MCS course has been found.

[CARO 6579 (1946)] combined the five Telecommunication Mechanic sub-trades above, and the Electrician Radar, Electrician Signals, Armament Artificer (Radar), Armament Artificer (Wireless), Instrument Mechanic (Signals) into a single Telecommunications Mechanic Group 1, Group 2, Group 3, Group 4 trade.

CAO 269-1 (1947)] created a new trade of Telecommunication Artificer Group 4 from the Telecommunication Mechanic Group 4.

[CAO 269-1 (1949)] split the Telecommunication Artificer Group 4 into the Telecommunication Artificer (Radar) Group 4 trade and Telecommunication Artificer Wireless Group 4 trades, both assigned to RCEME.

[CAO 269-1 (1949)] listed the Telecommunication Artificer (Radar) as a Group 4 trade assigned to RCEME.

[CAO 269-1 (1950)] listed the Telecommunication Artificer (Radar) as a Group 4 trade assigned to RCEME.

[CAO 269-1 (1952)] listed the Telecommunication Artificer (Radar) as a Group 4 trade assigned to RCEME.

In 1955, the Telecommunication Artificer (Radar) Group 4 became the Radar Artificer Group 4. [Skill at Arms]

A memo in June 1960 noted that the Radar Artificer and Radar Technician were not being fully employed because most of the equipment on which the trade was based had been removed from service. However, some trials were still taking place in Shilo and Churchill. [RCEME Archives]

This trade is included in RCEME Technical Bulletin Vol. 6, No.1, February 1961, which listed all RCEME trades and common trades applicable to RCEME and their authorized trade groups in 1960.

On 13 July 1962, the Army Trades Committee agreed to a DEME request dated 27 June 1962 to change the appointment of Artificer to Engineering Technician, change the trade name of Artificer to Master Technician, and reduce the rank prerequisite to "hold the substantive rank of corporal". Nine RCEME trades were involved. Accordingly, the Radar Artificer became the Master Radar Technician.

On Unification, the Master Radar Technician trade was transferred to CELE [RCEME Technical Bulletin, Vol. 11, No. 4, October 1966].

Telecommunication Artificer (Wireless) aka Radio Artificer aka Master Radio Technician

In the mid 1930s, there were three types of artificer: the Armament Artificer (Fitter), Armament Artificer (Instruments), and Artificer Artillery. With the influx of new weapons and vehicles, the workload became too great and too varied, and new trades were created to repair the new equipment. [Skill at Arms]

The Armament Artificer (Wireless) was created about 1941 to repair wireless and signal equipment excluding radio (radar). It was a trade group A, based on the Wireless Mechanic (later Telecommunications Mechanic [Trades 1944 AL1]) trade and a course at the Military College of Science. The minimum rank was a staff sergeant. [Skill at Arms]

When RCEME was created, [CARO 4230] transferred all RCOC Armament Artificers (Wireless) to RCEME.

When RCEME was created, the Armament Artificer (Wireless) trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] lists this trade as applicable to RCEME.

During the Second World War, Armament Artificers (Wireless) could be found in second, third, and fourth line RCEME workshops.

[CARO 6579 (1946)] combined the five Telecommunication Mechanic sub-trades above, and the Electrician Radar, Electrician Signals, Armament Artificer (Radar), Armament Artificer (Wireless), Instrument Mechanic (Signals) into a single Telecommunications Mechanic Group 1, Group 2, Group 3, Group 4 trade.

CAO 269-1 (1947)] created a new trade of Telecommunication Artificer Group 4 from the Telecommunication Mechanic Group 4.

[CAO 269-1 (1949)] split the Telecommunication Artificer Group 4 into the Telecommunication Artificer (Radar) Group 4 trade and Telecommunication Artificer (Wireless) Group 4 trades, both assigned to RCEME.

[CAO 269-1 (1949)] listed the Telecommunication Artificer (Wireless) as a Group 4 trade assigned to RCEME.

[CAO 269-1 (1950)] listed the Telecommunication Artificer (Wireless) as a Group 4 trade assigned to RCEME.

[CAO 269-1 (1952)] listed the Telecommunication Artificer (Wireless) as a Group 4 trade assigned to RCEME.

In 1955, the Telecommunication Artificer (Wireless) Group 4 became the Radio Artificer Group 4. [Skill at Arms]

The Radio Artificer trade is included in RCEME Technical Bulletin Vol. 6, No.1, February 1961, which listed all RCEME trades and common trades applicable to RCEME and their authorized trade groups in 1960.

On 13 July 1962, the Army Trades Committee agreed to a DEME request dated 27 June 1962 to change the appointment of Artificer to Engineering Technician, change the trade name of Artificer to Master Technician, and reduce the rank prerequisite to “hold the substantive rank of corporal”. Nine RCEME trades were involved. Accordingly, the Radio Artificer became the Master Radio Technician.

On Unification, the Master Radar Technician trade was transferred to CELE [RCEME Technical Bulletin, Vol. 11, No. 4, October 1966].

Telecommunication Mechanic

The Telecommunication Mechanic trades replaced the RCOC Electrician, Wireless and Wireless Mechanic trades. [Skill at Arms]

When RCEME was created, [CARO 4230] transferred all RCOC Mechanic, Wireless to RCEME.

The Mechanic, Wireless trade is listed in [Trades 1943].

The Mechanic, Wireless trade is NOT listed in [Trades 1944].

[CARO 4230] does not list the Electrician, Wireless trade.

[Trades 1943] does not list the Telecommunication Mechanic trade.

[CARO 4230] does not list the Telecommunication Mechanic trade.

[Trades 1944] lists the Telecommunication Mechanic as assigned to RCEME. By implication, the Telecommunication Mechanic trade was transferred to RCEME when RCEME was created.

It is probable that the trade conversion was taking place when RCEME was formed and the staff duties never caught up.

[Trades 1944] listed six sub-categories of Telecommunication Mechanic:

> Telecommunication Mechanic (Coast Artillery) - repaired all radio and electrical machinery used by the coast artillery.
>
> Telecommunication Mechanic (Field) - repaired all radio and telephone equipment used by the field artillery.
>
> Telecommunication Mechanic (Heavy Anti-aircraft) - repaired all radio and electrical machinery used by the heavy anti-aircraft artillery.
>
> Telecommunication Mechanic (Light Anti-aircraft) - repaired all radio and electrical machinery used by the light anti-aircraft artillery.
>
> Telecommunication Mechanic (Lines of Communication) - repaired all radio and electrical machinery (generators, transformers, circuit breakers, switchboards, etc.), and large fixed wireless stations used by units other than artillery.
>
> Telecommunication Mechanic (Searchlight) - repaired all searchlight associated equipment.

During the Second World War, Telecommunication Mechanics could be found in second, third, and fourth line RCEME units.

When RCEME was created, the Telecommunication Mechanic trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

The trade had three groups: C, B, and A.

[CARO 6579 (1946)] combined the Telecommunication Mechanic, Electrician (Radar), Electrician (Signals), Armament Artificer (Radar), Armament Artificer (Wireless), and Instrument Mechanic (Signals) into a single Telecommunication Mechanic Group 1, Group 2, Group 3, Group 4 trade. By implication, the six Telecommunication Mechanic sub-trades listed above were recombined into a single trade.

[CAO 269-1 (1947)] renamed the Telecommunication Mechanic Group 4 trade as Telecommunication Artificer Group 4, effective 8 April 1947. See Telecommunication Artificer trade.

[CAO 269-1 (1947)] reduced the Telecommunication Mechanic trade to a Group 1, Group 2, Group 3 trade, effective 8 April 1947.

[CAO 269-1 (1949)] listed the Telecommunication Artificer (Radar) as a Group 4 trade assigned to RCEME. See Telecommunication Artificer (Radar) trade.

[CAO 269-1 (1949)] listed the Telecommunication Artificer (Wireless) as a Group 4 trade assigned to RCEME. See Telecommunication Artificer (Wireless) trade.

[CAO 269-1 (1949)] does not list the Telecommunication Mechanic trade. It had apparently been split into the Radar Mechanic and Radio Mechanic trades.

[CAO 269-1 (1949)] confirmed the Radio Mechanic Group 1, Group 2, Group 3 trade as a RCEME trade.

[CAO 269-1 (1949)] confirmed the Radar Mechanic Group 1, Group 2, Group 3 trade as a RCEME trade.

The 15th Meeting of the Army Trades Committee Sub Committee on 11 May 1950, approved the proposed trades of Telecommunication Mechanic (Field), Telecommunication Mechanic (Line of Communication - LOC), and Telecommunication Mechanic (Radar) and passed them to the ATC for approval. Copies of the Trades Specifications have been placed on the RCEME Historical Database and on the Internet Archive. [LAC - ATC]

[CAO 269-1 (1950)] replaced the Line Mechanic, Radio Mechanic, and Radar Mechanic trades with the Telecommunication Mechanic (Field) Group 1, Group 2, Group 3 trade, Telecommunication Mechanic (Line of Communication - LOC) Group 1, Group 2, Group 3 trade, and Telecommunication Mechanic (Radar) Group 1, Group 2, Group 3 trade, all assigned to RCEME.

[CAO 269-1 (1950)] listed the Telecommunication Mechanic (Field), as a Group 1, Group 2, Group 3 trade assigned to RCEME.

[CAO 269-1 (1950)] listed the Telecommunication Mechanic (Line of Communication - LOC) as a Group 1, Group 2, Group 3 trade assigned to RCEME.

[CAO 269-1 (1950)] listed the Telecommunication Mechanic (Radar) as a Group 1, Group 2, Group 3 trade assigned to RCEME.

[CAO 269-1 (1952)] listed the Telecommunication Mechanic (Field), as a Group 1, Group 2, Group 3 trade assigned to RCEME.

[CAO 269-1 (1952)] listed the Telecommunication Mechanic (Line of Communication - LOC) as a Group 1, Group 2, Group 3 trade assigned to RCEME.

[CAO 269-1 (1952)] listed the Telecommunication Mechanic (Radar) as a Group 1, Group 2, Group 3 trade assigned to RCEME.

The 141st meeting of the Army Trades Committee on 18 January 1955 renamed the Telecommunication Mechanic (Line of Communication) Group 1, Group 2, Group 3 trade to the Communication Systems Technician Group 1, Group 2, Group 3 trade. A trade specification has been placed on the RCEME Historical Database and on the Internet Archive. Trade progression at the Group 4 level was to the Communication Systems Artificer Group 4 or the Radio Artificer Group 4. [LAC - ATC] See the Communication Systems Technician trade.

In 1955, the Telecommunication Mechanic (Field) was renamed Radio Technician, the Telecommunication Mechanic (Radar) was renamed Radar Technician, and the Telecommunication Mechanic (Line of Communication) was renamed to Communication Systems Technician in 1956. [Skill at Arms]

In 1955, the Communication Systems Technician, Fire Control System Technician (Anti-aircraft), Radio Technician, and Radar Technician had a common Group 1 Training Standard.

In 1955 the Telecommunication Artificer Wireless was renamed Radio Artificer and the Telecommunication Artificer Radar was renamed the Radar Artificer. [Skill at Arms]

A memo in June 1960 noted that the Communication Systems Artificer and Communication Systems Technicians were not being employed because there was no equipment in service on which the trade was based. It was recommended that the trades be designated wartime trades only. [RCEME Archives]

A memo in June 1960 noted that the Radar Artificer and Radar Technician were not being fully employed because most of the equipment on which the trade was based had been removed from service. However, some trials were still taking place in Shilo and Churchill. [RCEME Archives]

Telecommunication Mechanic Trade Test in 1944 [Trades 1944]

[Comment in the trades test.] Owing to the diverse nature of telecommunication equipment, personnel will be tested and classified in the following categories:—

> Heavy anti-aircraft (All Classes).
>
> Light anti-aircraft (All Classes).
>
> Field (All Classes).
>
> Lines of Communication (All Classes).
>
> Search Light (All Classes).
>
> Coast Artillery (All Classes).

As these categories are based upon formations in which personnel are to be employed, the trade test will be interpreted with due regard to the equipment, held or maintained in the respective formations, such categories remaining distinct for both upgrading and posting purposes.

The trade had three levels: Group C, Group B, and Group A. To qualify for Group C, the candidate had to:

> Have a general knowledge of training manual Air Publication 1762 (October, 1939), or such equivalent textbooks as may be appointed from time to time.
>
> Have a general elementary knowledge of the following matters:
>
> > Power transformers including auto-transformers.

Intervalve (L.F. and I.F.) and output transformers.

Permeability tuning.

Automatic bias.

Screening (electrostatic and magnetic).

Cathode followers.

Generation of V.H.F. oscillations (Sutton tube). ih) Thyratrons.

Introduction to wave guides.

Electrical differentiation.

Be able to:

Maintain his tools in good order.

Use taps, dies, drills and hand sets on mild steel, brass and copper.

Carry out soft soldering.

Joint and insulate wires and field cables.

Properly terminate cables.

Adjust relays and circuit breakers.

Interpret simple sketches and circuit diagrams.

Read Vernier scales.

Maintain and keep in good working order primary and secondary batteries.

Charge secondary batteries from service charging sets and existing D.C. mains.

Make a simple chassis and build a simple wireless circuit on it.

Understand the general principles of power supply circuits from D.C. and A.C. mains, and be able to locate simple faults.

Be able to connect up, run and carry out simple running repairs to:

Service motors.

Generators (D.C. and A.C.)

Rotary converters.

Transformers.

Switchboards.

Safety devices.

Motor starters.

Voltage regulators.

Vibrators.

Be able to use electrical testing and measuring instruments as provided in RCOC workshops for servicing telecommunication equipment.

Be acquainted with existing handbooks and general theory of telecommunication equipment which his workshop maintains.

Be able to carry out simple repairs to the telecommunication equipment with which units served by his workshop are equipped under the supervision of an Armament Artificer or Telecommunication Mechanic Group A.

Be able to identify colour coded resistances and condensers and be able to test resistances, condensers (all types), transformers, and valves.

To qualify for Group B, the candidate, in addition to the requirements for Group C, had to:

Have a good knowledge of circuit diagrams and be able to read them and sketch them with facility.

Have an elementary knowledge of:

- Staggered tuning.
- Feeders.
- Aerials and aerial arrays.
- Matching devices.
- Cathode ray tubes.
- Cathode ray oscillographs.

Be able to:

- Install and test permanent banks of secondary batteries.
- Maintain, locate faults, take down, reassemble, and effect running repairs to equipment as in Group C, para. 7.
- Make simple tools.

Have a knowledge of the theory and be able to maintain and calibrate instruments provided in R.C.O.C. workshops and in service telecommunication equipment.

Be able to use all test equipment with which his workshop is equipped.

Have a thorough knowledge of maintenance schedules and echelon repair schedules where applicable.

Be able to carry out simple repairs to the telecommunication equipment with which units served by his workshop are equipped without supervision.

Be able to locate and rectify minor faults in telecommunication equipment, with telecommunication test equipment provided.

Have a knowledge of, and be capable of testing and locating faults on such electrical transmission systems as are an integral part of the main telecommunication equipment with which he is concerned.

Have a general knowledge of Y.A.O.S. nomenclatures and parts lists.

To qualify for Group A, the candidate, in addition to the requirements for Group C and Group B, had to:

Have a thorough knowledge of:

Waveguides.

Oscillators, V.H.F.

Receivers, V.H.F.

Be able to locate and rectify faults not requiring an Armament Artificer's skill and organize and supervise maintenance, installation, repair and calibration of the telecommunication equipment with which his formation is equipped.

Be capable of operating a small expense store.

Tinsmith

When RCEME was created, [CARO 4230] transferred all RCOC Tinsmiths to RCEME.

When RCEME was created, [CARO 4230] transferred to RCEME any RCASC Tinsmiths who were in a unit that was converted to RCEME.

[CARO 4431] amended this to transfer only the RCOC or RCASC Tinsmiths who were in units converted to RCEME.

When RCEME was created, the Tinsmith trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] lists the trade as applicable to RCEME, RCE, and RCASC.

During the Second World War, Tinsmiths could be found in fourth line RCEME units.

The trade had two groups: C and B.

[CARO 6579 (1946)] does not list the trade.

The trade was discontinued in 1946 [Skill at Arms].

Tinsmith Trade Test in 1944 [Trades 1944]

The trade had two levels: Group C and Group B. To qualify for Group C, the candidate had to:

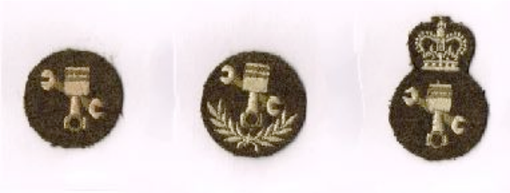
> Know the names of, be able to use and keep in order the tools and equipment of the trade.
>
> Be able to make and repair oil, petrol and water cans, boxes, funnels, stove pipes and bends; to bend exhaust pipes; to beat out dents and patch holes in fenders and body work; to use acids, pastes, hard and soft solders, salammoniac and the fluxes; to make up killed spirits; to remove stains from tinplate; to fold, hinge, roll, crimp, seam, swedge, groove the seam and rivet; to do the following joints: lap box grooved, circular, circular folded, circular over folded; to clean mechanically and chemically surfaces before soldering; to carry out re-tinning; to read sketches.
>
> Have a knowledge of the principles of soldering, brazing and welding; fluxes and solders for various metals; shop trigonometry such as the laying out of angles.

To qualify for Group B, the candidate, in addition to the requirements for Group C, had to:

> Be able correctly to use shears, automatic and bench, folders, stakes, rollers, edging or burring machine.
>
> Be able to maintain and repair all sheet metal work and any tools in use.
>
> Be able to repair all types of engine radiators, repair and renew petrol tanks, to renew and repair damaged petrol pipes, inlet manifolds, air cleaners and silencers, to do all sheet metal development such as the laying out and building up of cylinders, cones, spheres, hectagons, etc., to braze ferrous and non-ferrous metals; to operate a tinsmith shop and to make sketches.

Have a knowledge of oxyacetylene welding, elementary mathematics, including fractions, decimals, and metric equivalent, elementary metallurgy and blue prints.

Tire Repairman aka Mechanic (Tire Maintenance)



Vehicle Mechanic
Group 1, Group 2, Group 3
(Courtesy Gord Goddard)

The Vehicle Mechanic badges were common to the Group 1, Group 2, and Group 3 levels of the Vehicle Mechanic (Tracked), Vehicle Mechanic (Wheeled), Body Repairman, Tire Repairman, and Welder. The Vehicle Artificer was the Group 4 level. [Skill at Arms]

[Trades 1943] lists the Vulcanizer trade.

When RCEME was created, [CARO 4230] transferred to RCEME all RCOC Vulcanizers, as well as any RCASC Vulcanizers that were in a unit converted to RCEME. The trade was noted as being obsolescent and being replaced by the Mechanic (Tire Maintenance) trade.

[Trades 1944] does not list the Vulcanizer trade.

The Vulcanizer trade was being converted to the Mechanic (Tire Maintenance) when RCEME was created.

When RCEME was created, [CARO 4230] transferred all RCOC Mechanics (Tire Maintenance) to RCEME.

[Trades 1944] lists the Mechanic (Tire Maintenance) trade as applicable to RCEME.

During the Second World War, Mechanics (Tire Maintenance) could be found in specialty RCEME tire repair workshops and in fourth line RCEME units.

The trade had three groups: C, B, and A.

[CARO 6579 (1946)] reclassified the Mechanic (Tire Maintenance) trade as a Group 1, Group 2, Group 3 trade.

[CAO 269-1 (1947)] renamed the Mechanic (Tire Maintenance) trade as a Tire Repairman, and reduced it to a Group 1, Group 2 trade, effective 8 April 1947.

[CAO 269-1 (1949)] changed the Tire Repairman to a Group 2, Group 3 trade assigned to RCEME. The Driver Mechanic trade probably served as the Group 1 trade.

[CAO 269-1 (1950)] listed the Tire Repairman as a Group 2, Group 3 trade assigned to RCEME. The Driver Mechanic trade probably served as the Group 1 trade.

The 120th meeting of the Army Trades Committee on 19 July 1951 increased the Tire Repairman to a Group 1, Group 2, Group 3 trade. [LAC-ATC]

[CAO 269-1 (1952)] expanded the Tire Repairman to a Group 1, Group 2, Group 3 trade assigned to RCEME.

This trade was noted as part of the Vehicle Mechanic family in 1952.

There is an LAC file on the trade. [LAC Reference: Policy of Training and Qualifications - Tire Repairman 1952-1954. RG24-C-1-c, Volume/box number 31369, File number 3202-T18.] This includes the trade standard for the Tire Repairman Group 1 1953, Tire Repairman Group 2 1953, and Tire Repairman Group 3 1953. All these standards have been placed on the RCEME Historical Database and on the Internet Archive.

The Sub-committee of the Army Trades Committee, on 14 August 1958, designated the Tire Repairman trade as a wartime only trade. This resulted in minor additions to the Vehicle Mechanic (Wheeled) and Vehicle Artificer trades. [RCEME Archives]

The Army Trades Committee classified the Tire Repairman trade as obsolete on 15 December 1960 [RCEME Archives]. At that time, there were four RCEME tradesmen being paid as Tire Repairman.

The trade was noted as being discontinued in RCEME Technical Bulletin Vol. 6, No.1, February 1961.

Mechanic (Tire Maintenance) Trade Test in 1944 [Trades 1944]

The trade had three levels: Group C, Group B, and Group A. To qualify for Group C, the candidate had to:

Be able to operate a section vulcanizing mould.

> Have a good working knowledge of the repair of tires, including skiving, buffing and the building up of sectional repairs.
>
> Be able to make all types of tube repairs, including the reseating of valve stems.
>
> Be able to change and; fit any size of tire.

To qualify Group B, the candidate in addition to the requirements for Group C, had to:

> Be able to operate tire recapping equipment.
>
> Be able to recognize and identify the different types of tire failures.
>
> Be able to prepare a tire for recapping or sectional repair.
>
> Be able to make sectional repairs on tires in a skilled manner.
>
> Have a thorough knowledge of preventative tire maintenance.

To qualify Group A, the candidate, in addition to the requirements for Groups C and B, had to:

> Be able to operate in a skilled manner all types of tire repair and recapping equipment, and to carry out all types of repairs to tires and inner tubes.
>
> Have a good knowledge of tire construction and be able to determine the suitability of a tire for repair or recapping.

Toolmaker

When RCEME was created, [CARO 4230] transferred all RCOC and RCASC Toolmakers to RCEME.

[Trades 1944] lists the trade as applicable to RCEME and RCE.

When RCEME was created, the Toolmaker trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

During the Second World War, Toolmakers could be found in fourth line RCEME units.

The trade had three groups: C, B, and A.

[CARO 6579 (1946)] reclassified the Toolmaker trade as a Group 1, Group 2, Group 3 trade.

[CAO 269-1 (1947)] confirmed the Toolmaker trade as a Group 1, Group 2, Group 3 trade.

[CAO 269-1 (1949)] confirmed the Toolmaker Group 1, Group 2, Group 3 trade as a RCEME trade.

[CAO 269-1 (1950)] listed the Toolmaker Group 1, Group 2, Group 3 trade as a RCEME trade.

[CAO 269-1 (1952)] listed the Toolmaker Group 1, Group 2, Group 3 trade as a RCEME trade.

The Army Trades Committee classified the Toolmaker trade as obsolete on 15 December 1960 [RCEME Archives]. At that time, there were no tradesmen being paid as Toolmakers.

Toolmaker Trade Test in 1944 [Trades 1944]

The trade had three levels: Group C, Group B, and Group A. To qualify for Group C, the candidate had to:

> Be able properly to use the following tools: hammer, centre punch, chisel, hacksaw, file, inside and outside callipers, wrenches, laying out tools including square, centre square, protractor, scriber, surface gauge, dividers, compasses, depth gauge and surface plate, taps, dies, straight and taper reamers, feeler gauges, thread gauges, shaper, drill press, bench grinder, electric drill, power hacksaw, and lathe (up to 10-inch swing).
>
> Be able to keep in order and under supervision to adjust the above tools and in addition to understand the lubrication and maintenance of line shafting and simple machine tools and belt lacing.
>
> Be able correctly to execute within the given limits, a job similar to that shown in Plate No. 8, incorporating the basic operations of laying out, cutting, setting up, shaping, turning, filing, finishing, drilling and tapping; to forge tools using forge and anvil; to sharpen twist drills and the cutting tools for the above machines; to drill out and refit a broken stud; to do simple soldering; to turn a taper using the compound rest; to set gears on the lathe; to cut screw threads.

> Be able to do simple arithmetic using fractions and decimals; to make a freehand dimensioned sketch of a simple article such as a bearing; to read simple blue prints including a knowledge of cross hatching for different metals and materials; to distinguish between different metals; to recognize standard British and American threads.

To qualify for Group B, the candidate, in addition to the requirements for Group C, had to:

> Be able properly to use micrometers, dial test indicators, vernier callipers, bearing scrapers, expansion reamers, wire gauges, lathes (up to 14-inch swing), small boring machines, radial drills, planer, plain miller and slotter, flat scraper and spirit level.
>
> Be able to keep in order and properly to adjust the above tools.
>
> Be able, to execute within the given limits a job similar to that shown in Plate No. 9, incorporating the basic operations of cutting, laying out, setting up, boring, planing, plane milling and slotting, cutting a keyway with rounded ends, grinding and fitting a key; to do turning between centres, on the face plate, and using a collet; turn tapers (internal and external) using a taper attachment; to do simple brazing and annealing; to turn and assemble bushings; to make and assemble simple jigs and gauges; to be able to do enough heat treatment to harden and temper forged tools; to know the proper cutting lubricants for each metal; the classification of fits and the proper tolerances, allowances and limits for each class of fit; the proper feeds and speeds for each metal on each type of machine; to grind, bore and lap.
>
> Be able to read a blue print of an assemble jig or machine such as a gauge or shaper; to make a properly dimensioned sketch of any job coming into the shop. To know the simple effects of heat treatment on iron and steel; sufficient geometry to lay out work in the shop; drawing conventions and notations employed for operations; recognize methods of locking nuts and bolts, types of keys and understand simple types of valves.

To qualify for Group A, the candidate, in addition to the requirements for Group C and Group B, had to:

> Be able properly to use the following tools: line reamer, universal miller, dividing head and index plate and precision grinder.
>
> Be able to keep in order and properly to adjust the above tools.
>
> Be able to execute within the given limits any job of planing, shaping, slotting, milling, boring or turning given to him; to beat treat, case harden or braze anything necessary in his work; to forge or grind any tool he requires; to make any job from blue print or sample; to make and assemble the parts for any jig, gauge of fixture required.

Turner

When RCEME was created, [CARO 4230] transferred all RCOC Turners to RCEME, as well as any RCASC Turners who were in a unit converted to RCEME.

When RCEME was created, the Turner trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] lists the trade as applicable to RCEME, RCE, and RCASC.

During the Second World War, Turners could be found in second, third, and fourth line RCEME units.

The trade had two groups: C and B.

[CARO 6579 (1946)] reclassified the Turner trade as a Group 1, Group 2 trade.

[CAO 269-1 (1947)] confirmed the Turner trade as a Group 1, Group 2 trade.

[CAO 269-1 (1949)] does not list the Turner trade.

Turner Trade Test in 1944 [Trades 1944]

The trade had two levels: Group C and Group B. To qualify for Group C, the candidate had to:

> Be able properly to use the following tools: hammer, centre punch, chisel, hacksaw, file, inside and outside callipers, micrometers, vernier callipers, laying out tools including square, centre punch, protractor, scriber, surface gauge, compasses, dividers, depth gauge, ordinary gauges such as ring, plug, go and no-go gauges, lathe, drill press, power hacksaw, bench grinder, taps and dies.
>
> Be able to keep in order and properly to adjust the above tools and in addition to understand the maintenance and lubrication of line shafting and simple machine tools and belt lacing.
>
> Be able correctly to execute within given limits a job similar to that shown on Plate No. 10 incorporating the basic operations of laying out, cutting, turning filing and finishing; to make tapers using the compound rest of shifting the tailstock; forge tools using forge and anvil; sharpen lathe tools and twist drills; and distinguish between different metals.
>
> Be able to do simple arithmetic including vulgar fractions and decimals; make a freehand dimensioned sketch of a simple article such as a “Tension Test Piece”; read a simple blue print including knowledge of cross hatching denoting different metals and materials, drawing conventions and notations employed for operations; and distinguish between different metals.
>
> Know the proper feeds and speeds for turning various metals and the proper cutting lubricants for each metal.
>
> Know the simple effects of heat treatment on iron and steel.

To qualify for Group B, the candidate, in addition to the requirements for Group C, had to:

Be able properly to use the following tools: thread gauges, surface gauges with micrometer dials, any size or type of lathe or drill press.

Be able to keep in order and properly to adjust the above tools.

Be able to execute correctly within given limits a job similar to that shown on Plate No. 10 incorporating the basic operations of setting up, boring and turning a taper using a taper attachment; grind, hone and lap; use the grinding attachment on the lathe; forge or grind any tool he requires; to turn any job from blue print or sample to the required limit.

Be able to read any ordinary blue print and make a properly dimensioned sketch of any piece which he has to make.

Know the classification of fits and the proper limits and allowances for the various fits.

Know the strength of any metal with which he -has to work; enough shop trigonometry to solve right angled triangles, to find the diameter of a circle without knowing the centre, to lay out any angle, to lay out regular polygons; enough geometry to lay out work in the shop.

Typewriter Mechanic aka (Mechanic, Typewriter)

When RCEME was created, [CARO 4230] transferred all RCOC Mechanics, Typewriter to RCEME.

When RCEME was created, the Typewriter Mechanic trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] lists the Typewriter Mechanic trade as applicable to RCEME.

During the Second World War, Typewriter Mechanics could be found in fourth line RCEME units.

The Typewriter Mechanic trade had two groups: C and B.

[CARO 6579 (1946)] reclassified the Typewriter Mechanic trade as a Group 1, Group 2 trade.

[CAO 269-1 (1947)] confirmed the Typewriter Mechanic trade as a Group 1, Group 2 trade.

[CAO 269-1 (1949)] confirmed the Typewriter Mechanic as a Group 1, Group 2, Group 3 trade assigned to RCEME.

[CAO 269-1 (1950)] listed the Typewriter Mechanic as a Group 1, Group 2, Group 3 trade assigned to RCEME.

The 120th meeting of the Army Trades Committee on 19 July 1951 reduced the Typewriter Mechanic trade to a Group 1, Group 2 trade.

[CAO 269-1 (1952)] reduced the Typewriter Mechanic to a Group 1, Group 2 trade assigned to RCEME. The Group 3 level was taken over by the Telecommunications Mechanic (Line of Communication) Group 3 trade.

There is an LAC file on the Typewriter Mechanic. [LAC Reference: Policy of Training and Qualifications - Typewriter Mechanic 1952-1956. RG24-C-1-c, Volume/box number 31369, File number 3202-T30.] The file contains no useful information.

This trade is included in RCEME Technical Bulletin Vol. 6, No.1, February 1961, which listed all RCEME trades and common trades applicable to RCEME and their authorized trade groups in 1960.

In August 1964, DEME recommended to the ATC that the Typewriter Mechanic trade be designated as a wartime only trade, since there was no peacetime requirement for the trade. At the time, only three typewriter mechanics were drawing trades pay. [LAC - ATC]

Typewriter Mechanic Trade Test in 1944 [Trades 1944]

The Typewriter Mechanic trade had two levels: Group C and Group B. To qualify for Group C, the candidate had to:

> Know the names of, be able to use and keep in order, the tools of the trade.
>
> Know what parts to oil and those that must not be oiled.

Be able under supervision to adjust ribbon movement, back spacers, correct tension on carriage and key levers.

To qualify for Group B, the candidate in addition to the requirements for Group C, had to:

Carry out all adjustments noted above without supervision, and be able to repair all makes and types of typewriters.

Know the nomenclature of typewriter parts.

Be able to operate a workshop section.

Vehicle Artificer aka Armament Artificer (Vehicle) aka Master Vehicle Technician

The Armament Artificer (MV) had been created about 1943 to reduce the workload of the Armament Artificer (Fitter) and to repair vehicles and associated equipment. It was a trade group A, based on the Fitter (later Fitter (MV) and later Vehicle Mechanic (MV)) trade and a course at the Military College of Science. It was a companion trade to the Armament Artificer (AFV). The minimum rank was a staff sergeant. [CARO 4230] transferred all Armament Artificers (MV) to RCEME when RCEME was created. Armament Artificers (MV) could be found in all lines of RCEME units.

The Armament Artificer (AFV) had been created about 1943 to reduce the workload of the Armament Artificer (Fitter) and to repair tanks and other heavy tracked vehicles and their associated equipment. It was a trade group A, based on the Fitter (later Fitter (AFV) and later Vehicle Mechanic (AFV)) trade and a course at the Military College of Science. The minimum rank was a staff sergeant. It was a companion trade to the Armament Artificer (MV). [CARO 4230] transferred all Armament Artificers (AFV) to RCEME when RCEME was created. Armament Artificers (AFV) could be found in all lines of RCEME units that repaired tanks.

When RCEME was created, [CARO 4230] transferred the Armament Artificer (MV) and Armament Artificer (AFV) trades to RCEME.

[Trades 1944] lists the Armament Artificer (Vehicle) trade as assigned to RCEME. It was based on the Fitter (MV) and Fitter (AFV) trades. [Trades 1944 AL 1] converted those trades to Vehicle Mechanic (MV) (AFV). The change from Armament Artificer (MV) and Armament Artificer (AFV) to Armament Artificer (Vehicle) was probably underway when RCEME was created.

No details of a trades test, or content of the MCS course has been found.

[CARO 6579 (1946)] combined the Armament Artificer (Vehicle) and Armament Artificer (Vehicle) (MV) trades into the Armament Artificer (Vehicle) trades. It is probable that the AFV designation was omitted from the first name.

[CARO 6579 (1946)] reclassified the Armament Artificer (Vehicle) trade as a Group 4 trade.

[CAO 269-1 (1947)] renamed the Armament Artificer (Vehicle) trade as Vehicle Artificer, effective 8 April 1947, and confirmed it as a Group 4 trade.

[CAO 269-1 (1949)] confirmed the Vehicle Artificer trade as a Group 4 trade assigned to RCEME.

[CAO 269-1 (1950)] listed the Vehicle Artificer trade as a Group 4 trade assigned to RCEME.

[CAO 269-1 (1952)] listed the Vehicle Artificer trade as a Group 4 trade assigned to RCEME.

The Vehicle Artificer was the Group 4 level of the Vehicle Mechanic family of trades, which included:

Vehicle Mechanic (Wheeled) Group 1 to 3.

Vehicle Mechanic (Tracked) Group 1 to 3.

Recovery Mechanic Group 2 to 3 (after 1949).

Tire Repairman Group 1 to 3.

The Vehicle Artificer Group 4 trade was based on a Group 3 Vehicle Mechanic (Wheeled) or (Tracked) and a conversion course that included the other aspects of the Recovery Mechanic and Tire Repairman trades.

A specification, dated 23 February 1954, for the Vehicle Artificer Group 4 trade has been found in the [LAC Reference: Policy of Training and Qualifications - Master Vehicle Technicians 1954-1958. RG24-C-1-c, Volume/box number 31369, File number 3202-V8/M.] A copy of the specification has been placed on the RCEME Historical Database and on the Internet Archive.

This trade is included in RCEME Technical Bulletin Vol. 6, No.1, February 1961, which listed all RCEME trades and common trades applicable to RCEME and their authorized trade groups in 1960.

On 13 July 1962, the Army Trades Committee agreed to a DEME request dated 27 June 1962 to change the appointment of Artificer to Engineering Technician, change the trade name of Artificer to Master Technician, and reduce the rank prerequisite to “hold the substantive rank of corporal”. Nine RCEME trades were involved. Accordingly, the Vehicle Artificer became the Master Vehicle Technician.

The Master Vehicle Technician Group 4 Specification replaced the Vehicle Artificer Group 4 specification in July 1963 [CAMTS].

On Unification, the trade became Vehicle Technician.

Vehicle Mechanic (MV) (AFV)

Early in the Second World War, vehicle repairs were carried out mainly by the Fitter trade, although there were also Mechanist, Motor Mechanic, and Motor Assembler trades. About 1943, the Fitter trade had too large a span of technology and was split into the Fitter, Fitter (AFV) and Fitter (MV) trades. All three trades were open to several Corps including the RCOC.

[Trades 1944 - AL1] created the Vehicle Mechanic (MV) (AFV) trade in January 1945 from the Fitter (MV), Fitter (AFV), and Motor Mechanic trades. It was open to several [unspecified] Corps including RCEME.

There were probably two Vehicle Mechanic trades (motor vehicle and armoured fighting vehicle) with the same trades test on different equipments. The trades test was common to both trades, with the proviso that the tradesman had to be competent on the vehicles held by his unit. The Second World War unit establishments differentiate between the MV and AFV, as is to be expected. [Trades 1944 - AL1] does not.

When RCEME was created, the Vehicle Mechanic trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

During the Second world War, Vehicle Mechanics (MV) and (AFV) could be found in all RCEME units (depending on the type of supported units).

The Vehicle Mechanic (AFV) and Vehicle Mechanic (MV) trades had three groups: C, B, and A.

[CARO 6579 (1946)] combined the Vehicle Mechanic (AFV), Vehicle Mechanic (MV), Fitter (Signals), and Mechanist trades into the Vehicle Mechanic trade and reclassified it as Group 2, Group 3 trade. The trade did not have a Group 1 - the Driver Mechanic trade filled that function.

See the Vehicle Mechanic (Tracked) and Vehicle Mechanic (Wheeled) trades.

Vehicle Mechanic (MV) (AFV) Trade Test in 1944 [Trades 1944 Amdt. No. 1/January 45]

The trade had three levels: Group C, Group B, and Group A. To qualify for Group C, the candidate had to:

The trades test included the following notes:

> The following qualifications will be ascertained by practical work together with both oral and written tests where necessary.
>
> The candidate who is obviously an experienced and capable Vehicle Mechanic need not be tested in the whole of the items given.
>
> The allocation of marks for the Group C test should be in the following proportion: For paras 1 to 7 - 40%; For para 8 - 60%.
>
> A candidate should normally have had at least 6 months practical experience in a unit before being tested for upgrading from Group C to Group B and also from Group B to Group A.

A candidate to be eligible for trade testing will be certified by his O.C. as a qualified driver of vehicle handled by his Corps, and may be tested on any such vehicle.

The trade test will be carried out having regard for the tools and equipment on the AFG 1098 War Establishment Table or the Scale of Mobilization Equipment, or Mobilization Equipment Table, or Scale of Issue of Equipment of the candidate's unit. Workshop personnel will be tested on equipment and vehicles normally repaired in such workshops.

To qualify Group C, the candidate had to:

Be able to use in a workmanlike manner, all the hand tools in, general use in his trade, including feeler gauges.

Be able to mark out correctly from a simple sketch or simple print.

Be able to drill and tap or ream holes square to a surface with ratchet or breast drill; location error to be within 0.020 inch.

Be able to carry out simple soldering and brazing; to bend and anneal copper tubing.

Be able to carry out simple riveting using up to one inch diameter rivets.

Be able to carry out simple repairs to sheet metal work.

Be able to make freehand dimensioned sketches of a simple component after taking measurements with rule and callipers.

[Para 8] The candidate must understand the construction and operation of all standard assemblies of vehicles (including motorcycles) and be able to carry out, under general supervision, such repairs and adjustments to the equipment of his unit as are authorized under current regulations. Typical operations are as follows:

Petrol engine - Remove and replace as an assembly and adjust controls; decarbonize, grind in valves, adjust tappets; fit new rings, replace valve springs, check and assemble timing gears; remake gas, oil and water joints, clean filters, overhaul spark plugs; carburetion system - diagnose faults, dismantle, adjust, replace and tune for performance; detect faulty running and locate knocks.

C.I. engines - as for the petrol engine where applicable; identify faulty injectors, dismantle, clean, refit, or replace all normal types; understand principles of fuel pump operation.

Power train, braking system, tracks and suspensions, etc.- diagnose faults, dismantle and replace as assemblies and adjust controls; strip, repair and adjust as ordered.

Steering - Test and adjust controls.

Electrical system - diagnose faults in ignition, starting and lighting systems and execute ample improvised repairs in the absence of spares; care and maintenance of batteries.

To qualify Group B, the candidate, in addition to the requirements for Group C, had to be able to undertake, without detailed supervision, the following range of work:

Read machine drawings (D.M.E. Circulars, etc.) and work to them within the limits of the tools supplied to his unit.

Recognize and describe the appropriate fits allowed in vehicle components, and inspect and report on the serviceability of worn components, using vernier and micrometer gauges as necessary.

Strip down, replace defective components where necessary and re-assemble, ready for use, any assembly such as an engine, gearbox, differential, etc., within the resources of the equipment supplied to his unit.

Inspect chassis for alignment; and inspect steering for castor and camber angles, where applicable, and adjust as necessary.

Have a good' working knowledge of the electrical equipment of unit vehicles, and be able to locate faults, carry out adjustments in the ignition, starting and lighting circuits; and show a thorough practical knowledge of the care and maintenance of batteries.

Carry out modifications to equipment, authorized by D.M.E. circular, etc., to be undertaken by unit tradesmen.

Carry out a complete inspection of any vehicle with which his unit is equipped and complete a report in the appropriate army book or form; rectify and tune for best performance.

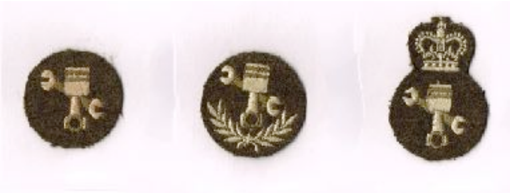
To qualify Group A, the candidate, in addition to the requirements for Group B, had to:

Be able to carry out a detailed inspection of a worn or damaged vehicle and render a comprehensive report on the amount of work required, and the improvised repairs which should be adopted.

Be able to overhaul any assembly in a petrol or C.I. engined vehicle, carrying out all necessary work which does not require the use of machine tools or the employment of specialist personnel.

Show that he possesses special merit in craftsmanship and reliability as a tradesman.

Vehicle Mechanic (Tracked)



Vehicle Mechanic (after 1956)
Group 1, Group 2, Group 3
(Courtesy Gord Goddard)

The Vehicle Mechanic badges were common to the Group 1, Group 2, and Group 3 levels of the Vehicle Mechanic (Tracked), Vehicle Mechanic (Wheeled), Body Repairman, Tire Repairman, and Welder. The Vehicle Artificer was the Group 4 level. [Skill at Arms]

Early in the Second World War, vehicle repairs were carried out mainly by the Fitter trade, although there were also Mechanist, Motor Mechanic, and Motor Assembler trades. About 1943, the Fitter trade had too large a span of technology and was split into the Fitter, Fitter (AFV) and Fitter (MV) trades. All three trades were open to several Corps including the RCOC.

The Fitter (AFV) trade was originally open to the RCOC. [Trades 1944]

When RCEME was created, [CARO 4230] transferred all RCOC Fitters (AFV) to RCEME.

[Trades 1944] lists the Fitter (AFV) trade as applicable to RCEME.

During the Second World War, Fitters (AFV) could be found in all lines of RCEME units that supported Armoured Fighting Vehicles.

The Fitter (AFV) trade had three groups: C, B, and A.

[Trades 1944 - AL1] created the Vehicle Mechanic (MV) (AFV) trade in January 1945 from the Fitter (MV), Fitter (AFV), and Motor Mechanic trades. It was open to several [unspecified] Corps including RCEME.

There were probably two Vehicle Mechanic trades (motor vehicle and armoured fighting vehicle) with the same trades test on different equipments. The trades test was common to both trades, with the proviso that the tradesman had to be competent on the vehicles held by his unit. The Second World War unit establishments differentiate between the MV and AFV, as is to be expected.

When RCEME was created, the Vehicle Mechanic trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

The Vehicle Mechanic (AFV) and Vehicle Mechanic (MV) trades had three groups: C, B, and A.

[CARO 6579 (1946)] combined the Vehicle Mechanic (AFV), Vehicle Mechanic (MV), Fitter (Signals), and Mechanist trades into the Vehicle Mechanic trade and reclassified it as Group 2, Group 3 trade. The trade did not have a Group 1 - the Driver Mechanic trade filled that function.

[CAO 269-1 (1947)] split the Vehicle Mechanic trade into a Vehicle Mechanic (Tracked) Group 2, Group 3 trade and a Vehicle Mechanic (Wheeled) Group 2 and Group 3 trade.

[CAO 269-1 (1949)] confirmed the Vehicle Mechanic (Tracked) trade as a Group 2, and Group 3 trade with primary responsibility assigned to RCEME and also open to the RCAC, RCA, and RCE. The Driver Mechanic (Tracked) trade served as the Group 1 level.

A letter dated 27 September 1950 implies that the Driver Mechanic (Wheeled) and Driver Mechanic (Tracked) trades were being remustered to the **new** Vehicle Mechanic (Tracked) Group 1 and Vehicle Mechanic (Wheeled) Group 1 trades. [LAC file 3202-V6]

[CAO 269-1 (1950)] expanded the Vehicle Mechanic (Tracked) trade to a Group 1, Group 2, Group 3 trade with primary responsibility assigned to RCEME and also open to the RCAC, RCA, and RCE. The Driver Mechanic (Tracked) trade was no longer part of the trade progression.

[CAO 269-1 (1952)] listed the Vehicle Mechanic (Tracked) trade as a Group 1, Group 2, Group 3 trade with primary responsibility assigned to RCEME and also open to the RCAC, RCA, and RCE.

In 1954, the Vehicle Mechanic (Tracked) was eliminated in all Corps except RCEME. [Skill at Arms]

The RCEME Vehicle Mechanic (Tracked) Groups 1, 2 and 3 specifications dated 23 February 1954 [LAC] have been placed on the RCEME Historical Database and on the Internet Archive.

This trade is included in RCEME Technical Bulletin Vol. 6, No.1, February 1961, which listed all RCEME trades and common trades applicable to RCEME and their authorized trade groups in 1960.

There are LAC files on the Vehicle Mechanic trade: [LAC Reference: Policy of Training and Qualifications - Vehicle Mechanics 1950-1961. RG24-C-1-c, Volume/box number 31369, File number 3202-V6.] and [LAC Reference: Policy of Training and Qualifications - Vehicle Mechanics 1961-1963. RG24-C-1-c, Volume/box number 31369, File number 3202-V6.]

The 1954 specification was replaced by the Vehicle Mechanic (Tracked) Groups 1, 2, and 3 specification dated 1 July 1963 [CAMTS]. A copy has been placed on the RCEME Historical Database and on the Internet Archive.

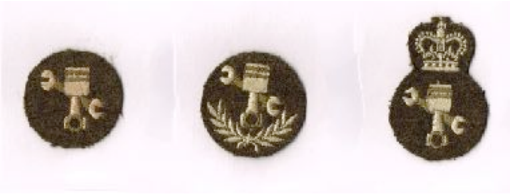
On Unification, the trade became Vehicle Technician.

Vehicle Mechanic (Wheeled) (Militia)

The 174th meeting of the Army Trades Committee on 14 March 1962 approved the specification of the Vehicle Mechanic (Wheeled) (Militia) Group 1, Group 2 trade.

A trade specification for the Vehicle Mechanic (Wheeled) (Militia) Group 1 and Group 2 has been placed on the RCEME Historical Database and on the Internet Archive.

Vehicle Mechanic (Wheeled)



Vehicle Mechanic (after 1956)
Group 1, Group 2, Group 3
(Courtesy Gord Goddard)

The Vehicle Mechanic badges were common to the Group 1, Group 2, and Group 3 levels of the Vehicle Mechanic (Tracked), Vehicle Mechanic (Wheeled), Body Repairman, Tire Repairman, and Welder. The Vehicle Artificer was the Group 4 level. [Skill at Arms]

Early in the Second World War, vehicle repairs were carried out mainly by the Fitter trade, although there were also Mechanist, Motor Mechanic, and Motor Assembler trades. About 1943, the Fitter trade had too large a span of technology and was split into the Fitter, Fitter (AFV) and Fitter (MV) trades. All three trades were open to several Corps including the RCOC.

When RCEME was created, [CARO 4230] transferred all RCOC Fitters (MV) to RCEME.

When RCEME was created, [CARO 4230] transferred to RCEME any RCASC Fitters (MV) who were in units that were converted to RCEME.

[Trades 1944] lists the Fitter (MV) trade as applicable to RCEME, CAC (Recce), CAC, RCA, RCE, RCASC, and CFC.

During the Second World War, Fitters (MV) could be found in all lines of RCEME units.

The Fitter (MV) trade had three groups: C, B, and A.

[Trades 1944 - AL1] created the Vehicle Mechanic (MV) (AFV) trade in January 1945 from the Fitter (MV), Fitter (AFV), and Motor Mechanic trades. It was open to several [unspecified] Corps including RCEME.

There were probably two Vehicle Mechanic trades (motor vehicle and armoured fighting vehicle) with the same trades test on different equipments. The trades test was common to both trades, with the proviso that the tradesman had to be competent on the vehicles held by his unit. The Second World War unit establishments differentiate between the MV and AFV, as is to be expected.

When RCEME was created, the Vehicle Mechanic trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

The Vehicle Mechanic (AFV) and Vehicle Mechanic (MV) trades had three groups: C, B, and A.

[CARO 6579 (1946)] combined the Vehicle Mechanic (AFV), Vehicle Mechanic (MV), Fitter (Signals), and Mechanist trades into the Vehicle Mechanic trade and reclassified it as Group 2, Group 3 trade. The trade did not have a Group 1 - the Driver Mechanic trade filled that function.

[CAO 269-1 (1947)] split the Vehicle Mechanic trade into a Vehicle Mechanic (Tracked) Group 2, Group 3 trade and a Vehicle Mechanic (Wheeled) Group 2 and Group 3 trade.

[CAO 269-1 (1949)] confirmed the Vehicle Mechanic (Wheeled) trade as a Group 2, and Group 3 trade with primary responsibility assigned to RCEME and also open to the RCAC, RCA, RCE, RCASC, and RC Sigs. The Driver Mechanic (Wheeled) trade served as the Group 1 level.

A letter dated 27 September 1950 implies that the Driver Mechanic (Wheeled) and Driver Mechanic (Tracked) trades were being remustered to the **new** Vehicle Mechanic (Tracked) Group 1 and Vehicle Mechanic (Wheeled) Group 1 trades. [LAC file 3202-V6]

[CAO 269-1 (1950)] expanded the Vehicle Mechanic (Wheeled) trade to a Group 1, Group 2, Group 3 trade with primary responsibility assigned to RCEME and also open to the RCAC, RCA, RCE, RCASC, and RC Sigs. The Driver Mechanic (Wheeled) trade was no longer part of the trade progression.

[CAO 269-1 (1952)] listed the Vehicle Mechanic (Wheeled) trade to a Group 1, Group 2, Group 3 trade with primary responsibility assigned to RCEME and also open to the RCAC, RCA, RCE, RCASC, and RC Sigs.

In 1954, the Vehicle Mechanic (Wheeled) was in RCEME and RCASC only. [Skill at Arms]

There are LAC files on the Vehicle Mechanic trade: [LAC Reference: Policy of Training and Qualifications - Vehicle Mechanics 1950-1961. RG24-C-1-c, Volume/box number 31369, File number 3202-V6.] and [LAC Reference: Policy of Training and Qualifications - Vehicle Mechanics 1961-1963. RG24-C-1-c, Volume/box number 31369, File number 3202-V6.]

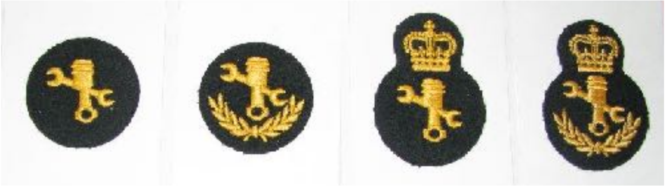
The Vehicle Mechanic (Wheeled) Groups 1, 2 and 3 specifications dated 23 February 1954 have been placed on the RCEME Historical Database and on the Internet Archive.

This trade is included in RCEME Technical Bulletin Vol. 6, No.1, February 1961, which listed all RCEME trades and common trades applicable to RCEME and their authorized trade groups in 1960.

The 1954 specification was replaced by the Vehicle Mechanic (Wheeled) Groups 1, 2 and 3 specification dated 1 July 1963 [CAMTS]. A copy has been placed on the RCEME Historical Database and on the Internet Archive.

On Unification, the trade became Vehicle Technician.

Vehicle Technician 411 (Post-Unification)



Vehicle Technician 411
QL3, QL4, QL5, QL6A
(DP 1.1. DP1.2, DP2, DP3)
(Courtesy Gord Goddard)

Before Unification, the Vehicle Technician trade was preceded by the following trades:

Fitter

Fitter (AFV) and Fitter (MV)

Driver Mechanic (AFV) and Driver Mechanic (MV)

Vehicle Mechanic (AFV) and Vehicle Mechanic (MV)

Vehicle Mechanic (Tracked) and (Vehicle Mechanic (Wheeled)

[Trades 1944 - AL1] created the Vehicle Mechanic (MV) (AFV) trade in January 1945 from the Fitter (MV), Fitter (AFV), and Motor Mechanic trades. It was open to several [unspecified] Corps including RCEME.

There were probably two Vehicle Mechanic trades (motor vehicle and armoured fighting vehicle) with the same trades test on different equipments. The trades test was probably common to both trades, with the proviso that the tradesman had to be competent on the vehicles held by his unit. The Second World War unit establishments differentiate between the MV and AFV, as is to be expected.

The Vehicle Mechanic (AFV) and Vehicle Mechanic (MV) trades had three groups: C, B, and A.

[CARO 6579 (1946)] combined the Vehicle Mechanic (AFV), Vehicle Mechanic (MV), Fitter (Signals), and Mechanist trades into the Vehicle Mechanic trade and reclassified it as Group 2, Group 3 trade. The trade did not have a Group 1 - the Driver Mechanic trade filled that function.

[CAO 269-1 (1947)] split the Vehicle Mechanic trade into a Vehicle Mechanic (Tracked) Group 2, Group 3 trade and a Vehicle Mechanic (Wheeled) Group 2 and Group 3 trade.

[CAO 269-1 (1949)] confirmed the Vehicle Mechanic (Tracked) trade as a Group 2, and Group 3 trade with primary responsibility assigned to RCEME and also open to the RCAC, RCA, and RCE. The Driver Mechanic (Tracked) trade served as the Group 1 level.

[CAO 269-1 (1949)] confirmed the Vehicle Mechanic (Wheeled) trade as a Group 2, and Group 3 trade with primary responsibility assigned to RCEME and also open to the

RCAC, RCA, RCE, RCASC, and RC Sigs. The Driver Mechanic (Wheeled) trade served as the Group 1 level.

[CAO 269-1 (1950)] expanded the Vehicle Mechanic (Tracked) trade to a Group 1, Group 2, Group 3 trade with primary responsibility assigned to RCEME and also open to the RCAC, RCA, and RCE. The Driver Mechanic (Tracked) trade was no longer part of the trade progression.

[CAO 269-1 (1950)] expanded the Vehicle Mechanic (Wheeled) trade to a Group 1, Group 2, Group 3 trade with primary responsibility assigned to RCEME and also open to the RCAC, RCA, RCE, RCASC, and RC Sigs. The Driver Mechanic (wheeled) trade was no longer part of the trade progression.

[CAO 269-1 (1952)] listed the Vehicle Mechanic (Tracked) trade as a Group 1, Group 2, Group 3 trade with primary responsibility assigned to RCEME and also open to the RCAC, RCA, and RCE.

[CAO 269-1 (1952)] listed the Vehicle Mechanic (Wheeled) trade to a Group 1, Group 2, Group 3 trade with primary responsibility assigned to RCEME and also open to the RCAC, RCA, RCE, RCASC, and RC Sigs.

In 1954, the Vehicle Mechanic (Tracked) was eliminated in all Corps except RCEME. [Skill at Arms] The Vehicle Mechanic (Tracked) Groups 1, 2 and 3 specification was dated 23 February 1954.

There are LAC files on the Vehicle Mechanic trade: [LAC Reference: Policy of Training and Qualifications - Vehicle Mechanics 1950-1961. RG24-C-1-c, Volume/box number 31369, File number 3202-V6.] and [LAC Reference: Policy of Training and Qualifications - Vehicle Mechanics 1961-1963. RG24-C-1-c, Volume/box number 31369, File number 3202-V6.] Relevant documents have been placed on the RCEME Historical Database and on the Internet Archive.

On Unification, the Vehicle Mechanic (Tracked) and Vehicle Mechanic (Wheeled) trades were combined into the LORE Vehicle Technician 411 trade. [RCEME Technical Bulletin, Vol. 11, No. 4, October 1966]

In November 1965, the Director of Electrical and Mechanical Engineering assumed responsibility for the provision of maintenance support for RCN motor transport. In September 1966, the RCEME procedures and documentation for vehicle maintenance were adopted for the RCAF Mobile Support Equipment (MSE) sections. The maintenance activities of the MSE sections were reorganized into a Base Maintenance (Land) section (BML). At geographic locations where army and air force units were integrated into bases on 1 April 1966, the RCASC transport companies and RCEME workshops were fully combined within the new sections.

Unification combined the Vehicle Mechanic (Tracked) and Vehicle Mechanic (Wheeled) into a single trade. In addition, some of the Body Repairmen and Welders transferred to the new Vehicle Technician 411 trade (411 being the Military Occupation Code). The RCAF MSE mechanics were transferred to the 411 trade. Vehicle technicians were trained to repair the new equipment. Some equipment, such as tanks, which were limited to specific units and locations, became a specialty.

See Chapter 4 for details of the Vehicle Technician 411 trade after Unification.

Occupational Summary 2019

The primary responsibility of the Vehicle Technician is to provide maintenance and support. This includes first, second and third level preventative and corrective maintenance as well as conducting recovery throughout the Canadian Armed Forces.

To accomplish this, the Vehicle Technician must have the skills, ability, expertise and cognitive capacity to inspect, test, diagnose faults, adjust, repair, recondition and modify equipment. To do so, the Vehicle Technician must acquire and retain comprehensive knowledge of the operation, maintenance and repair procedures of all the assigned equipment/vehicles.

The Vehicle Technician will inspect, maintain and repair the following equipment:

Civilian pattern cars, all-terrain vehicles, snowmobiles, outboard motors, small engines, trucks and trailers;

Standard Military Pattern vehicle fleet;

Mobile refueling systems;

Aircraft maintenance support equipment;

Small unmanned aerial system (launching system);

Fuel powered heaters and cooking devices;

Leopard tanks and the light armoured vehicle (LAV) family of vehicles;

Expedient route opening capability (EROC) fleet (Buffalo, Cougar and Husky);

Vast array of engineer and ground support equipment, including 22 & 60 ton cranes, graders, bulldozers, excavators, backhoes, loaders, aircraft energizers, bomb lifts and cargo handling equipment of all types; and

Power generating and lighting systems such as lighting units and both portable and trailer-mounted power-generating systems.

Other Duties include:

Conducting inspections and repairs for quality control on engines, transmissions, transfer cases, axles, fuel systems, brake systems, air conditioning, suspension, steering systems, automatic fire suppression systems, restraints systems and electrical systems;

Recovery operations;

Preparing written inspection reports using Canadian Forces Technical Orders (instructions, original equipment manufacturer (OEM) manuals and return/disposal/demilitarize parts while maintaining detailed records;

Providing information for and writing problem reports;

Input maintenance related data; and

Ensure all Vehicle Technician support equipment is calibrated and maintained in a serviceable condition.

Operates and maintains general-purpose and specialized tools and test equipment, such as:

Hydraulic test stands;
Mobile nitrogen generators;
Air-conditioning tooling;
Lifting apparatuses;
Alignment machines;
Tire repair equipment;
Crane and recovery systems; and
Computer-based diagnostic tooling.

Vulcanizer (Obsolescent)

[Trades 1943] lists the Vulcanizer trade.

When RCEME was created, [CARO 4230] transferred to RCEME all RCOC Vulcanizers, as well as any RCASC Vulcanizers who were in a unit converted to RCEME. The trade was noted as being obsolescent and being replaced by the Mechanic (Tire Maintenance) trade.

When RCEME was created, the Vulcanizer trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] does not list the Vulcanizer trade.

During the Second World War, Vulcanizers could be found in tire repair workshops and in fourth line RCEME units.

The Vulcanizer trade had a single level: Group C.

See the Tire Repairman trade.

Vulcanizer Trade Test in 1944 [Trades 1944]

The trade had one level: Group C. To qualify for Group C, the candidate had to:

> Be able to use a medium sized vulcanizing plant, scratch brush, stripping tools and spreading tools.
>
> Be able to maintain in good order the above equipment.
>
> Be able to rebuild tire casings including retreading, to fit new valves to inner tubes and to vulcanize inner tubes.
>
> Understand the cooking of rubber, the chemical properties of rubber, the construction of casing carcasses, the use of raw rubber and the types of rims.

Watchmaker

When RCEME was created, [CARO 4230] transferred all RCOC Watchmakers to RCEME.

When RCEME was created, the Watchmaker trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] lists the trade as applicable to RCEME.

During the Second World War, Watchmakers could be found in third and fourth line RCEME units.

The trade had two groups: C and B.

[CARO 6579 (1946)] discontinued the Watchmaker trade and incorporated it into the Instrument Mechanic trade.

[CAO 269-1 (1947)] re-established the Watchmaker trade as a Group 1, Group 2, Group 3 trade, effective 8 April 1947.

[CAO 269-1 (1949)] confirmed the Watchmaker trade as a Group 1, Group 2, and Group 3 trade assigned to RCEME.

[CAO 269-1 (1950)] listed the Watchmaker trade as a Group 1, Group 2, and Group 3 trade assigned to RCEME.

[CAO 269-1 (1952)] listed the Watchmaker trade as a Group 1, Group 2, and Group 3 trade assigned to RCEME.

There is an LAC file on the trade. [LAC Reference: Policy of Training and Qualifications - Watchmaker 1952-1956. RG24-C-1-c, Volume/box number 31369, File number 3202-W4]. The file contains no relevant information.

A memorandum to ADEME dated 28 January 1960 noted that the Watchmaker trade was no longer required as a peacetime trade and should be declared a wartime trade only. Field workshop establishment positions were restricted to peacetime only, and watch repairs at 202 WD were carried out by civilian personnel. There were only two Group 3 Watchmakers: one was about to retire and one was being transferred to instrument technician. ADEME concurred. [RCEME Archives]

This trade is included in RCEME Technical Bulletin Vol. 6, No.1, February 1961, which listed all RCEME trades and common trades applicable to RCEME and their authorized trade groups in 1960.

In August 1964, DEME recommended to the ATC that the Watchmaker trade be designated as a wartime only trade, since there was no peacetime requirement for the trade. At the time, only one watchmaker was drawing trades pay. [LAC - ATC]

Watchmaker Trade Test in 1944 [Trades 1944]

Note.—A general service watch was used to test tradesmen.

The trade had two levels: Group C and Group B. To qualify for Group C, the candidate had to:

Be able to use correctly the service tools issued for the work.

Be able to file, flat and square on small work.

Be able to make pins with pin vise and file.

Be able to strip down and clean and assemble a G.S. watch.

Be able to recoil flat hair springs.

Be able to select and fit main springs.

To qualify for Group B, the candidate, in addition to the requirements for Group C, had to:

Be able to turn and fit balance staffs.

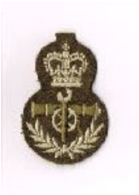
Set jewels, and stones, make settings and fit pallet stones.

Be able to fit flat and brequet springs and bring to time.

Be able to make turning tools, screw drivers, etc.

Have a good knowledge of escapements, chronographs and stop watches.

Weapons Artificer aka Master Weapons Technician



Weapons Artificer
Group 4
(Courtesy Gord Goddard)

The 165th meeting of the Army Trades Committee meeting on 16 October 1959 introduced the Weapons Artificer trade as a Group 4 trade replacing the Small Arms Artificer and Armament Artificer trades. A memo HQ 3667-1 dated 12 August 1960 authorized the trade. [LAC - ATC] The two former trades were combined and the name changed to more accurately describe the trade duties.

There is an LAC file on the Master Weapons Technician. [LAC Reference: Policy of Training and Qualifications - Master Weapons Technician 1955-1958. RG24-C-1-c, Volume/box number 31369, File number 3202-W8/M.]

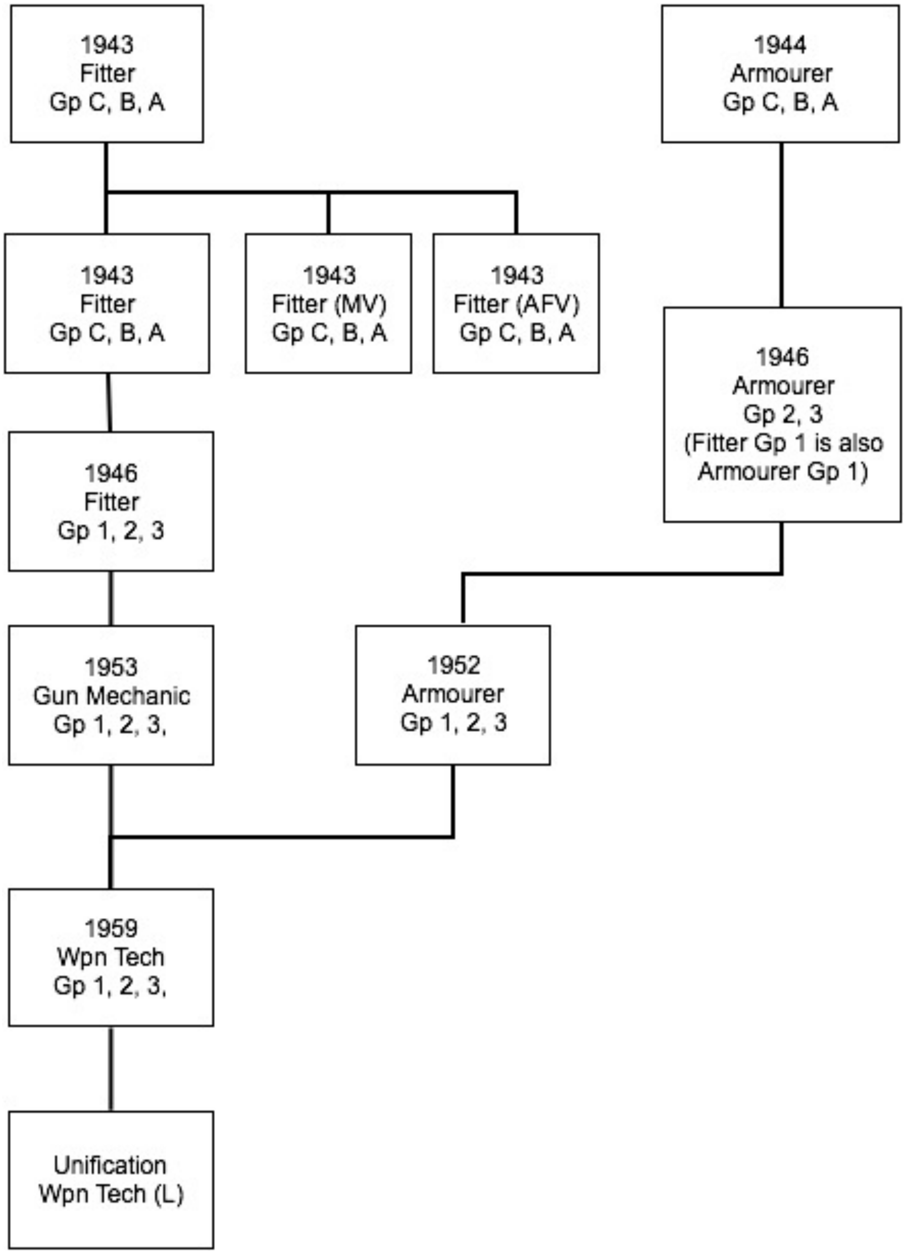
The Weapons Artificer Group 4 specification was dated 1 April 1960. It replaced the specifications of the Small Arms Artificer Group 4 and Armament Artificer Group 4, both dated 1 December 1955 [CAMTS]. A copy of the trade specification has been placed on the RCEME Historical Database and on the Internet Archive.

This trade is included in RCEME Technical Bulletin Vol. 6, No.1, February 1961, which listed all RCEME trades and common trades applicable to RCEME and their authorized trade groups in 1960.

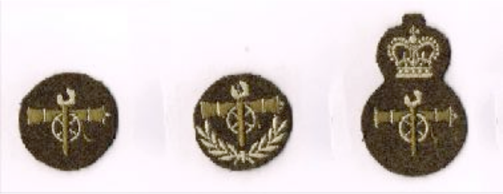
On 13 July 1962, the Army Trades Committee agreed to a DEME request dated 27 June 1962 to change the appointment of Artificer to Engineering Technician, change the trade name of Artificer to Master Technician, and reduce the rank prerequisite to “hold the substantive rank of corporal”. Nine RCEME trades were involved. Accordingly, the Weapons Artificer became the Master Weapons Technician.

On Unification, the trade became Weapons Technician (Land).

Weapons Technician Flowchart



Weapons Technician (1959)



Weapons Technician
Group 1, Group 2, Group 3
(Courtesy Gord Goddard)

See the Armourer and the Gun Mechanic trades.

The 165th meeting of the Army Trades Committee meeting on 16 October 1959 introduced the introduced the Weapons Technician trade as a Group 1, Group 2, Group 3 trade replacing the Gun Mechanic and Armourer trades. A memo [HQ 3667-1 dated 12 August 1960] authorized the trade. [LAC - ATC]

The Weapons Technician trade replaced the Armourer and Gun Mechanic trades although both required retraining and conversion training [Weapons Technician Groups 1, 2 and 3 specification dated 1 April 1960].

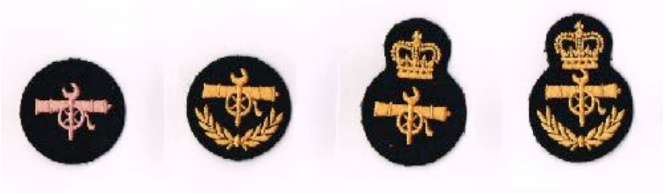
There is an LAC file on the Weapons Technician trade. [LAC Reference: Policy of Training and Qualifications - Weapons Technician 1954-1958. RG24-C-1-c, Volume/box number 31369, File number 3202-W8.]

The Weapons Technician Groups 1, 2 and 3 specification was dated 1 April 1960 and was replaced by an update on 1 December 1962 [CAMTS]. A copy of the 1962 trade specification has been placed on the RCEME Historical Database and on the Internet Archive.

This trade is included in RCEME Technical Bulletin Vol. 6, No.1, February 1961, which listed all RCEME trades and common trades applicable to RCEME and their authorized trade groups in 1960.

On Unification, the trade became Weapons Technician (Land) 421.

Weapons Technician (Land) 421 (Post-Unification)



Weapons Technician (Land) 421
QL3, QL4, QL5, QL6A
(DP 1.1. DP1.2, DP2, DP3)
(Courtesy Gord Goddard)

This is a post-Unification trade.

On Unification, the Weapons Technician and Master Weapons Technician trades were combined into the LORE Weapons Technician (Land) 421 trade. [RCEME Technical Bulletin, Vol. 11, No. 4, October 1966]

In general terms, the trade did not change significantly, apart from taking over small arms repair from the RCAF and RCN.

Occupational Summary 2021

Weapons Technicians (Land) are employed across the Canadian Armed Forces in both the Regular Force and Army Reserve, both at bases and stations across Canada, and on deployed operations, to maintain and repair land-based weapons, weapons systems, and ancillary equipment. They are also responsible for the maintenance and repair of other equipment such as scales, hydraulic lifts, locks and security containers, personal flotation devices, rebreathers, and equipment for heating, cooking, and lighting in the field. They are primarily responsible for the maintenance and repair of the following equipment:

Rifles, submachine guns, and hand guns,

Machine guns and non-guided anti-tank weapons,

Sub-calibre adapters,

Training devices, including simulators,

Grenade projectors, mortars, and launcher systems,

Light weapons and turret systems for armoured fighting vehicles,

Non-service weapons and non-lethal weapons,

Light and heavy howitzers,

Field stores, and

Security containers.

Weapons Technicians (Land) are also responsible for the following:

Technical administration,
Field maintenance operations, and
Common mechanical fitting.

See Chapter 4 for articles on the post-Unification trades.

Welder (Electric)

The early relationship and chronology of the Welder (Gas), Welder (Acetylene), Welder (Electric), Welder (Gas and Electric - G&E), and Welder (Acetylene and Electric) has not been firmly established. The Welder (G&E) existed in [Trades 1943], but does not exist in [Trades 1944], suggesting that it was a predecessor trade. However, both Welder (Acetylene) and Welder (Electric) are listed in [Trades 1944] as RCEME trades. On the other hand, CARO 4230 initially transferred the two separate trades, but was canceled by CARO 4431 and the combined trade transferred.

When RCEME was created, [CARO 4230] transferred all RCOC Welders (Electric) to RCEME.

[CARO 4431] deleted the transfer of all RCOC Welders (Electric) to RCEME.

When RCEME was created, the Welder trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

A CMHQ Sub Committee on RCEME trades on 3 August 1944 noted that the Welder (Gas and Electric) trade be broken down into two separate trades. The rationale was that it was rare that a welder would be proficient in both types of welding, and most postings needed a welder in one or the other of the trades. [LAC - Policy - Training of Tradesmen, RCEME]

[Trades 1944] lists the Welder (Electric) trade as applicable to RCEME, RCE, RCOC, and RCASC.

During the Second World War, Welders (Electric) could be found in first, second, third, and fourth line RCEME units.

The trade had two groups: C and B.

See Welder (Acetylene and Electric) trade.

Welder (Electric) Trade Test in 1944 [Trades 1944]

The trade had two levels: Group C and Group B. To qualify for Group C, the candidate had to:

> Be able to use efficiently electric arc welding equipment and hand tools used in the welder’s trade.
>
> Be able to maintain the above equipment in good working condition and have a knowledge of the precautions to be taken in order that proper operation of this equipment will be assured.
>
> Be able to make sound butt, lap and fillet welds in steel plate from 1/8 to 1 inches thick in the downhand and vertical positions.
>
> Be able to make fusion butt welds in cast iron in the downhand and vertical positions without preheat and in the downhand positions without preheat and in the downhand position with preheat.
>
> Be able to cut plate up to 1 inches thick in the horizontal position using the Electrical Arc.

Be able to read simple blue prints and sketches.

Have a working knowledge of: the control of expansion and contraction of metals; the preparation and properties of mild steel, cast iron for arc welding. Be able to identify mild steel and cast iron electrodes supplied in Sect. G2 (VAOS).

Know the precautions to be observed in welding tanks which have contained explosive materials or vapours.

Candidates must obtain 75 per cent on each paragraph to pass.

To qualify for Group B the candidate, in addition to the requirements for Group C, had to:

Have a working knowledge of the speed controls and methods of adjustment of these controls for gasoline driven electric welding sets.

Be able to make repairs to armour plate (overlaid patches, inlaid patches, filling holes) involving butts, laps and fillets in all positions. Know the properties and precautions to be taken in welding the service types of armour plate, medium carbon and alloy steels.

Be able to identify, explain welding properties and uses for the electrodes supplied in Sect. G2 (VAOS).

Understand the hard surfacing of wear resisting parts and “tool tipping”. Be able to deposit wear resisting electrode horizontal or vertical, and be able to “tip” a lathe tool or cold chisel, drill or similar tool.

Be able to make downhand butt welds on bronze or aluminum. Must have an understanding of precautions necessary in welding bronze or aluminum castings.

Be able to use the electric welder as a cutting tool to prepare penetrations in armour, plate up to 3.5 inches thick for welding.

Be able to make fillet and butt welds downhand and vertical on 16 gauge mild steel.

Be able to read and interpret shop drawings; be able to estimate the equipment and materials necessary, time required to carry out either repair work or fabrication.

Qualify for Welder (Acetylene) Group C.

Candidate must obtain 75 per cent on each paragraph to pass.

Welder (Acetylene) (aka Welder (Gas)?)

The early relationship and chronology of the Welder (Gas), Welder (Acetylene), Welder (Electric), Welder (Gas and Electric - G&E), and Welder (Acetylene and Electric) has not been firmly established. The Welder (G&E) existed in [Trades 1943], but does not exist in [Trades 1944], suggesting that it was a predecessor trade. However, both Welder (Acetylene) and Welder (Electric) are listed in [Trades 1944] as RCEME trades. On the other hand, CARO 4230 initially transferred the two separate trades, but was canceled by CARO 4431 and the combined trade transferred.

When RCEME was created, [CARO 4230] transferred to RCEME all RCOC Welders (Gas) and all RCASC Welders (Gas).

[CARO 4431] cancelled the transfer of all RCOC Welders (Gas) and all RCASC Welders (Gas) to RCEME.

When RCEME was created, the Welder trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

A CMHQ Sub Committee on RCEME trades on 3 August 1944 noted that the Welder (Gas and Electric) trade be broken down into two separate trades. The rationale was that it was rare that a welder would be proficient in both types of welding, and most postings needed a welder in one or the other of the trades. [LAC - Policy - Training of Tradesmen, RCEME]

[Trades 1944] lists the Welder (Acetylene) trade as applicable to RCEME, RCE, RCOC, and RCASC.

During the Second World War, Welders (Acetylene) could be found in first, second, third, and fourth line RCEME units.

The trade had two groups: C and B.

See Welder (Acetylene and Electric) trade.

Welder (Acetylene) Trade Test in 1944 [Trades 1944]

The trade had two levels: Group C and Group B. To qualify for Group C, the candidate had to:

> Be able to use efficiently oxyacetylene welding and cutting equipment and hand tools used in the welder’s trade.
>
> Be able to maintain the tools indicated in para 1.
>
> Be able to make sound and neat butt, lap and fillet welds in steel plate up to 1/4 -inch thick in the downhand and vertical positions; fusion butt welds in cast iron in the downhand and vertical positions; none-fusion (bronze) butt welds in cast iron and steel in the downhand and vertical positions.
>
> Be able to cut steel plate 1/2-inch thick to a given line.
>
> Be able to read simple blue prints and sketches.
>
> Have a good knowledge of the characteristics and welding requirements of low and medium carbon steel, cast iron and malleable cast iron.

Have a working knowledge of control of expansion and contraction of metals and the preparation of steel and cast iron for fusion welding or bronze welding. Be able to identify mild steel, cast iron, bronze rods, supplied in Sect. G2 (VAOS).

Have a knowledge of the precautions to be taken to use safely cylinders of oxygen and acetylene including fire precautions.

Know the precautions to be observed in welding tanks which have contained explosive materials or vapours.

Candidates must obtain 75 per cent on each paragraph to pass.

To qualify for Group B, the candidate, in addition to the requirements for Group C, had to:

Be able to make fusion butt welds in cast or wrought aluminum, brass, bronze, electron, medium carbon steel, and zinc base die cast, downhand and vertical.

Be able to make sound and neat butt and fillet welds in steel plate up to 1/4- inch thick in the overhead position. Be able to make double operator vertical welds in steel plate up to 1/2-inch thick.

Be able to describe the construction of a preheating furnace (or muffle) and be able to assemble a temporary one in the field and have a practical knowledge of methods of preheating and slow (tooling of cast iron and aluminum castings, electron and bronze.

Be able to weld intricate sections such as internal combustion engine cylinder blocks, aluminum, electron and bronze castings, using local preheating or a preheating furnace as required and to describe practical tests to indicate when the correct preheat temperature of the sections has been reached.

Be able to deposit hard or wear resisting surfaces using any of the rods supplied in Sect. G2 (VAOS) (Stellite, wear resisting, 3.5 per cent Ni and cast iron). Be able to explain the properties, heat treatment if any, and uses of these surfaces.

Be able to read shop drawings and to estimate quantities of material required and fabrication time involved in doing both repair and new work.

Be able to prepare for the repair of armour plate three inches thick by cutting smoothly around penetrations without overheating, to provide for the deposit of weld metal.

Be able to identify electron, pure aluminum, silicon aluminum, copper or zinc bearing aluminum, stainless steel, nickel bronze, zinc free bronze, mild steel—cold rolled, wrought iron, malleable iron, white and grey cast iron, zinc base die cast.

Qualify for Welder Electric Group C.

Candidates must obtain 75 per cent on each section, in order to pass Group B.

Welder (Acetylene and Electric) aka Welder (Gas and Electric - (G&E))

The early relationship and chronology of the Welder (Gas), Welder (Acetylene), Welder (Electric), Welder (Gas and Electric - G&E), and Welder (Acetylene and Electric) has not been firmly established. The Welder (G&E) existed in [Trades 1943], but does not exist in [Trades 1944], suggesting that it was a predecessor trade. However, both Welder (Acetylene) and Welder (Electric) are listed in [Trades 1944] as RCEME trades. On the other hand, CARO 4230 initially transferred the two separate trades, but was canceled by CARO 4431 and the combined trade transferred.

[Trades 1943] lists the Welder (Gas and Electric) trade.

When RCEME was created, [CARO 4230] transferred all RCOC Welders (Gas and Electric) to RCEME.

[CARO 4431] amended this to include only RCOC Welders (Gas and Electric) who were in units converted to RCEME.

When RCEME was created, the Welder trade wore the "T" badge relevant to the tradesman's level of qualification (see the introduction to Annex A for a description and photo of the badges).

A CMHQ Sub Committee on RCEME trades on 3 August 1944 noted that the Welder (Gas and Electric) trade be broken down into two separate trades. The rationale was that it was rare that a welder would be proficient in both types of welding, and most postings needed a welder in one or the other of the trades. [LAC - Policy - Training of Tradesmen, RCEME]

[Trades 1944] does not list the combined Welder (Gas and Electric) trade.

The trade had two groups: C and B.

[CARO 6579 (1946)] reclassified the Welder (Gas and Electric) trade as a Welder (Acetylene or Electric) as a Group 1, Group 2 trade.

[CAO 269-1 (1947)] confirmed the Welder (Acetylene or Electric) trade as a Group 1, Group 2 trade.

[CAO 269-1 (1949)] renamed the Welder (Acetylene or Electric) as a Welder (with no specialty) and confirmed the Welder as a Group 1, Group 2, Group 3 trade assigned to RCEME and RCE.

See the Welder trade.

Welder (Gas and Electric) Trade Test in 1943 [Trades 1943]

The trade had two levels: Group C and Group B. To qualify for Group C, the candidate had to:

> Be able to use efficiently oxyacetylene welding and cutting equipment, arc welding equipment (A.C. and D.C.), hand tools used in the welders' trade, electric hand grinders and pre-heating furnaces.
>
> Be able to maintain the above equipment in good working condition.
>
> Be able to weld with gas, steel plate in any position up to ½ inch thick, using butt and lap welds; to cut steel plate up to ½ inch thick to a given line; to weld cast

iron, copper, aluminium (cast and drawn), brass and high carbon steel; to make non-fusion welds (bronze welds) of cast iron and steel.

Be able to butt-weld or lap-weld steel plate 1/16 inch to ¼ inch thick in any position, using electric arc welding machine.

Be able to arc weld cast iron.

Be able to read simple blue prints and sketches.

Have a working knowledge of elementary heat treatment of metals, the control of expansion and contraction, the service types of rods, the proper gas pressures and current to use on service jobs and the safety precautions in the use of equipment including fire precautions.

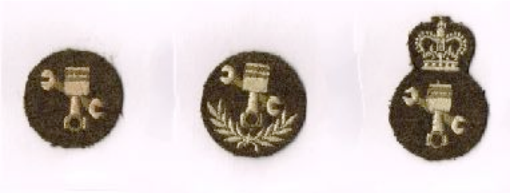
To qualify for Group B, the Candidate, in addition to the requirements for Group C, had to:

Be able to weld service alloy steels, with gas and electricity; to build up a surface with special alloys; to weld intricate sections using preheat; to fill holes in armour plate up to 3½ inches thick by use of arc welding.

Be able to read any shop drawings and to estimate quantities and time.

Have sufficient knowledge of heat treatment, expansion and contraction, to direct any repair likely to be encountered.

Welder



Welder
Group 1, Group 2, Group 3
(Courtesy Gord Goddard)

The Vehicle Mechanic badges were common to the Group 1, Group 2, and Group 3 levels of the Vehicle Mechanic (Tracked), Vehicle Mechanic (Wheeled), Body Repairman, Tire Repairman, and Welder. The Vehicle Artificer was the Group 4 level. [Skill at Arms]

The early relationship and chronology of the Welder (Gas), Welder (Acetylene), Welder (Electric), Welder (Gas and Electric - G&E), and Welder (Acetylene and Electric) has not been firmly established. The Welder (G&E) existed in [Trades 1943], but does not exist in [Trades 1944], suggesting that it was a predecessor trade. However, both Welder (Acetylene) and Welder (Electric) are listed in [Trades 1944] as RCEME trades. On the other hand, CARO 4230 initially transferred the two separate trades, but was canceled by CARO 4431 and the combined trade transferred.

[Trades 1943] lists the Welder (Gas and Electric) trade.

When RCEME was created, [CARO 4230] transferred all RCOC Welders (Gas and Electric) to RCEME.

When RCEME was created, the Welder trade wore the “T” badge relevant to the tradesman’s level of qualification (see the introduction to Annex A for a description and photo of the badges).

[CARO 4431] amended this to include only RCOC Welders (Gas and Electric) who were in units converted to RCEME.

[Trades 1944] does not list the combined Welder (Gas and Electric) trade.

The trade had two groups: C and B.

[CARO 6579 (1946)] reclassified the Welder (Gas and Electric) trade as a Welder (Acetylene or Electric) as a Group 1, Group 2 trade.

[CAO 269-1 (1947)] confirmed the Welder (Acetylene or Electric) trade as a Group 1, Group 2 trade.

[CAO 269-1 (1949)] renamed the Welder (Acetylene or Electric) as a Welder (with no specialty) and confirmed the Welder as a Group 1, Group 2, Group 3 trade assigned to RCEME and RCE.

[CAO 269-1 (1950)] listed the Welder as a Group 1, Group 2, Group 3 trade assigned to RCEME and RCE.

[CAO 269-1 (1952)] listed the Welder as a Group 1, Group 2, Group 3 trade assigned to RCEME.

There is an LAC file on the trade. [LAC Reference: Policy of Training and Qualifications - Welders 1952-1956. RG24-C-1-c, Volume 31369, File 3202-W6.]

The specification for Welder Group 1, 2, and 3 was dated 1 March 1958, and updated on 1 January 1962 [CAMTS]. A copy of the 1962 specification has been placed on the RCEME Historical Database and on the Internet Archive.

This trade is included in RCEME Technical Bulletin Vol. 6, No.1, February 1961, which listed all RCEME trades and common trades applicable to RCEME and their authorized trade groups in 1960.

The Welder and Body Repairman trades were replaced by the RCEME Metals Technician Group 1, Group 2, Group 3 trade about 1965. [LAC]

On Unification, the trade was discontinued and tradesmen transferred to the Vehicle Technician or Metals Technician Trades. The Metals Technician trade was transferred to the Air Force.

See the Metals Technician trade.

Welder (Militia)

The 174th meeting of the Army Trades Committee on 14 March 1962 approved the specification of the Welder (Militia) Group 1, Group 2 trade.

A trade specification for the Welder (Militia) Group 1 and Group 2 has been placed on the RCEME Historical Database and on the Internet Archive.

Wheeler

The Wheeler repaired the wooden parts of car and wagon wheels and the wooden gun wheels. He also repaired wooden parts of motor vehicles, and could fit and repair the steel rim on a wooden wheel. [Skill at Arms]

When RCEME was created, [CARO 4230] transferred all RCOC Wheelers to RCEME.

When RCEME was created, the Wheeler trade wore the "T" badge relevant to the tradesman's level of qualification (see the introduction to Annex A for a description and photo of the badges).

[Trades 1944] lists the trade as applicable to RCEME.

The trade had two groups: C and B.

During the Second World War, Wheelers could be found in fourth line RCEME units.

On 15 June 1945, DEME advised the Director of Military Training that there were no Wheelers in the RCEME Home War Establishments (ie, in Canada), and that it was unlikely that they would be added to the establishments in Canada in the future. [LAC - Policy - Training of Tradesmen, RCEME]

A DEME memo on 30 January 1946 advised that the Wheeler trade was no longer in use in RCEME and could be eliminated.

[CARO 6579 (1946)] reclassified the Wheeler trade as a Group 1, Group 2 trade.

[CAO 269-1 (1947)] confirmed the Wheeler trade as a Group 1, Group 2 trade.

[CAO 269-1 (1949)] does not list the Wheeler trade.

Wheeler Trade Test in 1944 [Trades 1944]

The trade had two levels: Group C and Group B. To qualify for Group C, the candidate had to:

> Know the names of and properly use tools in the wheeler's kit.
>
> Be able to keep in order and (properly) to adjust the above tools and in addition to understand the lubrication and maintenance of simple wood working machine tools and belt lacing.
>
> Be able to execute within the given limits a job similar to that shown in Plate No. 4, including the basic operations of sawing, laying out, planing, drilling, glueing, dowelling, joining and finishing; to make the various types of joints made with wood, particularly those used in making wheels and vehicle bodies and the value of varnish and paint in protecting wood; to sharpen cutting tools and twist drills; to make simple repairs and renewals to truck and wagon bodies and similar vehicles; to prepare, stop, prime and paint new and old woodwork.
>
> Be able to do simple arithmetic using fractions and decimals; to make a freehand dimensioned sketch of a simple article such as a box, to read simple blueprints including a knowledge of hatching denoting different metals and materials and drawing conventions and notations used for operations; to distinguish between different woods; to know sufficient geometry for layout purposes.

To qualify for Group B, the candidate in addition to the requirements for Group C, had to:

> Be able properly to use the following tools: inside and outside callipers, planer, jointer, forge, anvil, tongs, centre punch, chisel and forming tools.
>
> Be able to keep in order and properly to adjust the above tools.
>
> Be able correctly to execute within the given limits a job similar to that Shown in Plate No. 11 incorporating the»basic operations of cutting, laying out, setting up, turning, shaping, drilling and assembling; to forge any tools required and heat treat them for wood working; to do any job given to him from a blueprint or sample; to know what variety of wood to use on any job. Be able to do rough blacksmith's work, such as replacing a steel tire on a wheel; to make a wooden wheel; to do any job of wood working on wheels or vehicle bodies which may be given to him.
>
> Be able to read ordinary blueprints; to make a properly dimensioned sketch of any job given to him; to know the strengths and weights of various woods; to have a knowledge of lumber storage, seasoning and preservation; sufficient shop trigonometry to solve right angled triangles, to find the diameter of a circle without knowing the centre; to lay out any angle; to lay out regular polygons.

Annex B - RCEME Strength in 1947

RCEME Strength in 1947 - the first date is the actual strength and the others are forecast				
Trade	1 Apr 47	1 Jun 47	1 Aug 47	1 Oct 47
Armament Artificers	336	336	336	336
Armourers	250	209	168	127
Blacksmiths	45	41	38	34
Carpenters	130	99	68	36
Clerks	417	329	241	151
Coach Painters	67	57	46	35
Coach Trimmers	17	17	17	17
Draughtsmen	30	24	18	12
Drivers Transport Plant	5	-	-	-
Drivers Mechanic	350	291	229	171
Electricians (Vehicle and Plant)	126	112	98	84
Electricians (Control Equipment)	6	6	6	6
Fitter	212	183	154	126
Instrument Mechanic	95	95	95	95
Machinist	46	41	36	32
Mechanic Tire Maintenance	93	80	67	53
Mechanic Typewriter	27	18	9	-
Painter & Decorator	19	13	7	1
Panel Beater	73	68	63	59
Sheetmetal Workers	32	29	26	22
Storemen	86	77	68	58
Telecommunication Mechanics	157	139	121	102
Senior Projectionist	12	12	12	12
Textile Refitter	6	6	6	6
Tool Makers	2	2	2	1
Turners	48	41	34	26
Watchmakers	11	11	11	11
Vehicle Mechanics	1087	1007	927	848

RCEME Strength in 1947 - the first date is the actual strength and the others are forecast				
Trade	1 Apr 47	1 Jun 47	1 Aug 47	1 Oct 47
Welders (A or E)	64	63	62	61
General Duty	392	322	252	182
Driver I.C.	164	119	74	30
TOTAL	4322	3932	3291	2734
Source: LAC File. RG24-C-1-a, Volume 2165, File HQS-54-27-35-320, Trades Training & Tests - RCEME - Policy, 1944-1947.				

Annex C - The RCEME Trades Specifications Series

This annex was added to version 3 of this document. With the updating to the modern trades and the creation of the RCEME collection in the Internet Archive, the trades specifications that were placed on the RCEME Historical Database were organized into a series of searchable .pdf files as support to this document. This annex reproduces the introduction to the series. Each volume also contains a table of contents and list of sources reproduced from this document.

Introduction

RCEME Trades 1944-2020, A Reference Guide summarizes the trades that were part of RCEME when the Corps was formed in 1944, and follows the development, amalgamations, changes, and history from that time to the four trades that are part of RCEME today. During the research for that document, many trades specifications and standards were found in the Library and Archives Canada (LAC) and other repositories. These were used to prepare a thumbnail history of each trade in the main reference, but space precluded the inclusion of the complete trade specification and/or standard.

This "Trades Specifications" series supports the main document and includes the original trade specifications and references as they were found at the LAC and elsewhere. This is a source document for researchers. In general, the raw photographs of the LAC file pages have been converted to a searchable .pdf file. No attempt has been made to reformat the contents of the original files.

Guide to the Series

Because of the size of some of the files, the trades have been separated into several volumes, each containing the specifications for a group of trades. The series consists of:

Volume 1 - Aircraft Trades

Volume 2 - Armourer, Armament, and Weapons Technician Trades

Volume 3 - Body and Tire Repair Trades

Volume 4 - Driver and Driver Mechanic Trades

Volume 5 - Electrical Trades

Volume 6 - Instructor Trades

Volume 7 - Instrument Trades

Volume 8 - Metals, Machinist, and Welding Trades

Volume 9 - Radar and Fire Control System (1950s) Trades

Volume 10 - Radio and Telecommunication Trades

Volume 11 - Recovery Mechanic Trades

Volume 12 - Vehicle Repair Trades

Volume 13 - Other Trades
Volume 14 - Trade Reviews
Volume 15 - Post-Unification Trades
Volume 16 - RCEME Trades in 2020